An Introduction TO THE ART OF Logick:

Composed for the use of English Schools, and all such who having no opportunity of being instructed in the Latine Tongue, do however desire to be instructed in this liberal Science.

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LONDON,

Printed by *E. T.* and *R. H.* for *Thomas Passenger* at the Three Bibles on *London Bridge*, and *Ben. Hurlock* over against St. *Magnus* Church. 1671.

BRITISH MUSEUM

TO THE

Worſhipful

HENRY MILBERNE Eſq;

Recorder of *Monmouth*.

SIR

IT *is now twenty years and more, ſince firſt I thought that we in* England *were infinitely out, in our way and Method of edueating youth; and although I did attempt ſomething (in the time of our late troubles) toward the redreſs there-*

of; yet muſt I acknowledge that my conference with you, hath not only rivetted me in my former perſwaſion, but much animated and encouraged me to reaſſume my former attempt. And though I find my propoſals to be much ſlighted and contemned in general; yet till ſome perſons of worth and learning, ſhall by force of argument convince my judgement, I ſhall not eaſily be perſwaded to deſiſt; but ſhall hope that there may be yet found ſome to joyn with you in giving encouragement to ſuch an Honourable undertaking, as is the teaching of youth all the ſciences in their own Tongue: An introduction to the laſt and higheſt of them, the Art of Logick, I here tender the world under the Patronage of your name, to let it know as well your zeal for your Country, as my gratitude for the many favours I have received from you: and if at laſt I can perſwade

ſwade ſome few to give their children ſuch education in their own tongue, (before they attempt any thing in other languages) as may in ſome good meaſure fit them for all imployments both by Sea and Land, God ſhall have the Glory, they and their Country the profit; and I in that ſhall think my ſelf abundantly ſatisfied for all the pains that I have yet, or ſhall hereafter undertake; and the rather, becauſe I hope thereby to make it appear, how much I am

4 AP 62

Sir

Your faithful Servant

to command

John Newton.

TO THE TEACHERS OF ENGLISH.

YOu are they to whom this Nation is beholding for the first foundation of all literature; by you are all our youth first cultivated and instructed not only in Letters and Morality, but in the Principles of Religion also; and I could heartily wish, that your encouragements were more suitable to your

your indefatigable pains, great worth, and honourable calling: But alas! I cannot but be deeply ſenſible not only of the mean reward uſually given to you, but alſo of the great ſcorn to which you are too often lyable: but let not this diſcourage you, in theſe your pious, as well as honourable undertakings, but let it rather heighten your ſpirits and encreaſe your courage, not only patiently to undergoe all thoſe unjuſt contempts, that are by fooliſh men thus rudely caſt upon your perſons; but alſo to ſcorn the ſcorners; and to this purpoſe let me intreat you, for the glory of God, the edification of his Church, and the good of your Countrey, to look a little further than the bare teaching of children to read: be not ſo forward and willing to quit you of thoſe tender plants, by ſending them to Latine Schools (for their further inſtruction and greater advan-

tage

tage as you perhaps may think;) for your parting with them ſo very early, doth not only hinder their chearful progreſs in the Latine and Greek tongues, but for ever debar them from all opportunities of getting that knowledge in Writing, Arithmetick and Geometry, which would capacitate them for thoſe callings, to which the meanneſs of their parents fortunes doth and will enforce thouſand thouſands of them. Let your induſtry therefore prevent their being ſent either to them that ſhall do them no good at all, (I mean the Latine maſter,) or yet to thoſe, that are only skilled in the dexterous uſe of a Gooſe quill: for as for Arithmetick, to the ſhame of that whole ſociety, there are very few that are able to teach a child ſo much as is required to compute the quantity of a glaſs window; ſo that you need not deſpair of gaining ſo much your ſelves, as will

will enable you to do that work as well as they; and as for writing, the world doth ſwarm with ſo many excellent copy-books, that it is no hard matter for you to make it appear, what a uſeleſs creature a bare pen-man is, I mean ſuch an one as is neither able nor willing to teach children to read, nor that which they chiefly profeſs the art of Arithmetick. Nor will the Theory or Practick of vocal muſick be any impoſſible thing for you to undertake; but this accommodation would certainly enſue, that all congregations would perform the part of their devotions to God with far greater harmony than now they do; all Cathedrals would be better furniſhed with Queriſters and ſinging-men, and all churches with far more fitting pariſh-Clarks: yea, and ſuch helps there are for Aſtronomy alſo, that you may with wonderful eaſe have a competent knowledge

knowledge in that noble ſcience. Would you therefore but take upon you (as eaſily you might,) the teaching of theſe things, your Schollars would not only proceed with great delight, but the viſible profit that would thereby accrue to them, and the whole nation, would certainly remove very much of that ſcorn and contempt under which you now groan. And now to compleat this work, and to confine the Latine maſter to thoſe children only, that are intended for ſome learned profeſſion, acquaint thoſe that are under your tuition with the Elements of Rhetorick, and not of Rhetorick only, but alſo of Logick. Theſe two Sciences have ſuch a natural dependance on one another, that they are not fit to go aſunder, and therefore as my Rhetorick is ready for you, ſo here I now preſent my Logick to you as the ſeventh and laſt part of an Engliſh Academy; the which I have

have compoſed from thoſe well known and yet received compendiums of this art, which have been heretofore publiſhed by the late learned Prelate Biſhop *Saunderſon*, Mr. *Airy*, Mr. *Smith*, *Burgerſditius*, and others; and do believe that the teaching of all theſe Sciences in the Engliſh tongue, would make an increaſe of knowledge in our land to an admiration, and exceedingly further all thoſe that are intended for learned profeſſions, in the attaining of the Latin and Greek tongues, or of any other language: but do with all know how hard a matter it is to perſwade the world, from their wonted and received practice: and therefore I ſhall only wiſh well to the things that I have propounded, and leave them to be more or leſs made uſe of by you, as you ſhall be perſwaded in your own minds.

J. Newton.

THE

4 AP 62

The First Book
OF THE
ART of *LOGICK.*

CHAP. I.

LOgick *is an Art which conducteth the mind in the knowledge of things.*

In this *Definition* two things are to be explained.

1. The *name* of the thing *defined.*

2. The *Parts* of the *definition.*

For the first of these, *Logick* hath its *name* from this word λόγος, which signifieth

speech

ſpeech, and according to *Ariſtotle*, *ſpeech* i wh twofold, *internal*, and *external*. *Interna* vil *ſpeech* he calleth that which is conceived i hi the *mind*: And that he calleth *external* he which is expreſſed by *words*; now *Logic* hath its name from both theſe kinds of *ſpeech* be but chiefly from the *internal*, which is th y *reaſon* or *ratiocination* of the *mind*, where hi as the *external ſpeech* is but the interpreter o the *internal*.

This word *Logick* may be taken two waies, it

1. For the *Habit* which is gotten by pre cept and practice.

2. For the *Syſteme* of *Logical* precepts, b re which that *habit* may be more eaſily acqui ri red. na

And this *definition* of *Logick* doth be s n ſute with it in the firſt acceptation; though s I ſhall here ſpeak of it in the ſecond; namel n as it is taken for the *Syſteme* of *Logical* pre cepts. w

The parts of this *definition* are two, th *Genus* and the *differentia*; the *Genus* or ge th neral name here given to *Logick* is *Art* n not a manual art, or handy-craft trade vl but an *internal* and *mental art*; for the min hath its artificial workings as well as th et body, as is manifeſt even in *Poetry*. it

The *difference* or particular name, b which

which it is distinguished from other *arts* will be best conceived by considering three things; the *End*, the *Offices* and the *Object* thereof.

The *last* and *principal end* of *Logick* is, *the knowledge of things*, and its *chief Offices* by which this *End* may be attained, are these three.

1. *To define things that are obscure.*
2. *To divide things that are general and universal.*
3. *To reason concerning things dubious.*

And the *matter* or *Object* about which it treateth, is, *all that we can possibly either conceive in our minds, or utter with words*; but the manner how this *matter* is to be considered, is not as things are in their own nature, but as the *Instruments* of *Logick* may be applied unto them.

The parts of *Logick* therefore are these two; *Thematical* and *Organical*.

The *Thematical* part is that, which treateth of *Theams* with their various affections, and second notions, as of the *matter* of which *Logical Instruments* are composed.

The *Organical* part, is that, which treateth of those *Instruments*, and their composition.

CHAP. II.

Of Simple and Compounded Theams.

A *Theam is any thing propounded to th understanding that it may be known.*

1. To know *is to form a conception or noti of the thing propoſed*: And a Notion *is the re preſentation of a thing in the underſtanding.*

2. Notions *are of two ſorts* Primary *or* Se cundary.

3. A Primary Notion *is that which repreſent the thing as it is in it ſelf.*

4. A Secundary Notion *is that which toge ther with the firſt Notions repreſents the manne how the mind doth either underſtand a thing, e explain its own underſtanding unto others.*

5. Theams *are either* Simple *or* Com pound.

6. Simple Theams *are ſuch Theams as ar apprehended without any compoſition of* No tions; *as* a man, a houſe.

7. Compounded Theams *are ſuch, as ar underſtood by two or more* Notions, *bein joined together in the affirmation, or in the ne gation of a thing, as* a man doth run.

8. A Simple Theam *is either* univerſal, a particular.

9. A

9. An universal Simple Theam *is that which in its own nature may be spoken of many in one and the same respect, and that univocally and without any ambiguity, as*, a man, a horse, a plant.

10. A Particular *or* Singular Theam *is that which in its own nature can be spoken of no more than one, as, Socrates Plato*; for though the names of *Socrates* and *Plato* may be given to many, yet that is by way of imposition, not of their own nature; names as names are naturally spoken of no more than one.

11. *Singular Theams* are call'd *individuals*, because they cannot be divided into any more of the same name and nature.

12. And *Individuals* are of two sorts.

1. Such as are *certain* and *determinate*; the which may be expressed three waies.

1. By *a proper name*, as *Alexander, Paul*; which signifies some certain and determinate particular.

2. By a *Pronoun Demonstrative*; as *this man.*

3. By *Circumlocution* or *Paraphrase*, as *the Apostle of the Gentiles*, that is, *Paul.*

2. Such as are *uncertain* and *indeterminate*, which doth indeed express a *particular*

thing, but this or that *indefinitely*, as *some man*.

3. An *Universal simple Theam*, otherwise called a *Predicable*, may be spoken of two ways.

1. By *declaring what a thing is*, and then it is spoken of such things as do differ; either

1. In *Species*, and is called *Genus*, as a *living creature*, *colour*; or

2. In *number* only, and is called *Species*, as *a man*.

2. By *declaring what kind of thing it is*, of *which it is spoken*, and that either,

Essentially, and is called *Difference*: or

Accidentally, and that either

Of necessity, and then it is called a *proper Accident*: as the *Visible faculty* in man, or

Not of necessity, and then it is called a *common* or *simple Accident*, as *white*.

CHAP.

CHAP. III.

Of Genus *and* Species.

A *Genus* or General may be taken two ways.

1. *Civilly*, and then amongſt *Grammarians*, it noteth the diſtinction of *Sex*; but amongſt *Orators* it is taken for a *Multitude which had their beginning from ſome one*; thus the *Romans* are ſaid to be the *Genus* or *race* of *Romulus*: or elſe it is taken for that *one from whence that multitude had it's beginning*; thus *Romulus* is the *Genus* or *perſon* from whence the *Romans* had their riſe.

2. *Logically*, and then it is *Univerſal*, which *is ſpoken of many that do differ in the* Species, *by declaring what a thing is*; and thus taken, it is either

Supream, and ſo a *Genus* as that it cannot be a *Species*; and of this ſort there are ten *Generals* or *Predicaments*; or

Subaltern; and ſo a *Genus*, in reſpect of thoſe things which are contained under it, and a *Species* in regard of that, under which it is it ſelf contained, as a *living creature*.

2. A *Species* alſo may be taken two ways.

1. *Civilly* as it is uſed amongſt *Orators*, and ſo it is taken for *the external form, and beauty of the body.*

2. *Logically*, and ſo it is an *Univerſal*, which may be ſpoken *of many, that differ in number only, by declaring what a thing is.* The *Genus* in this definition is this word *Univerſall*, the reſt of the definition is put for the *difference*, in which by theſe words, *ſpoken of many by declaring what a thing is*, *Difference* and *Accident*, whether proper or common, are both excluded; and by theſe words *differing in number only*, *Genus* is excluded alſo.

3 A *Species* is either

Subaltern, that is *ſpecies* of one and *Genus* of another; or

Moſt Special, that is ſo a *Species*, as that it cannot be a *Genus*, as *a Horſe*, *a man.*

4. The *Canons* or *Rules* of *Genus* and *Species* are theſe following.

1. Every *Genus* muſt have two or more *Species.*

2. Nothing can be ſaid of the *Genus*, which may not be alſo ſaid of every *Species*; and the *Species* is conſerved in every *Individual.*

3. Every

3. Every *Genus* and *Species* may be alike predicated of all that are under them.

CHAP. IV.

Of Difference.

Difference is threefold.

1 *Common* which is ſome *ſeperable Accident* that doth diſtinguiſh one thing from another, as *white*, to *walk*, and doth belong to the fifth *predicable*: It is called *Difference* as it makes to *differ*, and an *Accident* becauſe it is *inherent*.

2. *Proper*, which is either an *inſeperable Accident*, in the fifth *predicable*, or a *proper Accident* in the fourth *predicable*, as *Quantity*, *Riſibility*.

3. *Moſt proper*, by which one thing doth *differ* from another *eſſentially*: and this is that *Difference* which belongs to this third *predicable*.

In which we are to conſider three things.

Firſt what this *Difference* is, and it may be defined three ways.

1. *Difference is an univerſal, by which one Species is eſſentially diſtinguiſhed from another*:

thus Rationality *doth distinguish* a man *from* a beast.

2. *Difference is an Universal, according to which a* Species *doth excel its* Genus: *because a* Species *doth in it's* essence *contain such differences as the* Genus *in its* essence *doth not contain.* Thus *man* by reason of his *Rationality* doth excel a living creature in General, which is the *Genus* of *man.*

3. *Difference is an universal, which may be spoken of many differing in* Species *or* number, *and declaring* essentially *what kind of thing it is of which it is spoken.* And this is the definition of *difference*, as it is a *predicable.*

Secondly, we are to consider how many fold this *difference is*, the which is either 1. *Divisive*, by which the *Genus* is divided into its several *Species*; as by *rational* and *irrational*, a *living creature* is divided into a *man* or a *beast.*

2. *Constitutive*, which doth *essentially* constitute some *Species*, and this is two fold.

1. *Generical*, which doth constitute some *remote Species* but not the *next*, for the *next* is the *Genus*; thus *sensibility* in respect of *man* is a *Generical difference* constituting first *a living creature* and remotely *man.* And this is always spoken of many differing in *Species* or *number.*

2. *Specifical*, which doth constitute the

nearest *Species*; as *rationability* doth constitute *man*.

3. We are to consider its *properties* which are six.

1. Every *difference* is, *an Essential part of* its Species, *and of every individual of which it is spoken*.

2. Every *Difference* is *Divisive*, in respect of its *superior*, and *constitutive* in respect of its *infertour*.

3. Every *difference* is in *nature* before its *Species*, and is the *internal* cause thereof.

4. No *difference* is *directly* in the *predicamental* order, but *indirectly* only and *collaterally*.

5. Every *difference* is *immediately* spoken of one, *viz.* its *Species*, and *mediately* of many.

6. No *difference* is spoken of that *Species* of which it is the *difference*, by way of *more* and *less*.

CHAP.

CHAP. V.

Of Proper and Common Accidents.

AN *Accident* is taken two ways.

1. For *all* that which is not of the *eſſence* of the thing: and thus a *man* in reſpect of an *houſe* may be called an *Accident*, becauſe he is not of the *eſſence* of an *houſe*, but ſo it is not taken here.

2. For *that only*, which is *inherent* in ſome ſubject, and this is two fold, *Proper* and *Common*.

1. A *proper Accident* is that which *is convertible with his* Species, *perpetually inherent in every of them, and in no other*; and this doth conſtitute and belong to the fourth *predicable*.

It may be other ways defined, thus

A proper Accident, is an univerſal, which may be ſpoken of many differing in Species *or number accidentally, and of neceſſity declaring what kind of ſubject it is of which it is ſpoken*: and thus *riſibility* is ſpoken of *man*. And this is two fold.

1. *Generical*, which flows from the *eſſence* of the *ſubaltern Species* or *higheſt Genus*, and this is always ſpoken of many *Species*.

2. *Specifical*

2. *Specifical*, which floweth from the *essence* of the lowest *Species*, and this is spoken of one *Species* only, and many *individuals*.

2. *A Common Accident*, is that whith *is not convertible with his* Species; and this doth constitute and belong to the fifth *predicable*; and may be otherwise defined three ways.

1. *A common Accident, is an universal, which may or may not inhêre in the subject, without the destruction of the subject*, as *man* is the subject of *whiteness*, but the not being *white* doth not presently make him not to be *a man*.

2. *A common Accident, is such an universal as is neither* Genus, Species *or* Difference, *no nor proper to the subject, though it be always inherent in it.*

3. *A common Accident, and an universal, which may be spoken of many, differing in* Species *or number; accidentally declaring what kind of subject it is, of which it is spoken inconvertibly*, and thus *whiteness* is a *common accident* belonging to *man*.

A common Accident is twofold.

1. *Seperable*, which may be actually seperated from the subject in which it is inherent; thus *whiteness* may be seperated from *man*.

2. *Inseperable*, which cannot be actually seperated;

ſeperated from the ſubject in which it is inherent, but only in the mind or understanding; thus *blackneſs* is *inſeperable* from an *Æthiopian*, though in ſpeaking of one I am not alwaies bound to conſider his *blackneſs*.

The *Canons* or *Rules* are theſe,

1. *Every Accident is in ſome Subject, and alwaies inherent in it.*

2. *Every Accident, if it be ſeperated from the Subject in which it once was, periſheth.*

3. *No Accident can paſs from one Subject to another.*

4. *Some accidents may be more or leſs in a ſubject, but not all.*

5. *Every accident is in nature after his ſubject.*

6. *Whatever is inherent in a ſubject is an Accident.*

CHAP.

CHAP. VI.

Of the Antepredicaments.

CConcerning *Simple Theams* we are to conſider two things.

1. The ſeveral *ranks* or *orders* to which all *Simple Theams* may be reduced, and in which they may be ranked and placed.

2. The *way* and *means* by which they are or may be interpreted.

The particular *Orders* to which all *Simple Theams* may be reduced, are otherwiſe called *Predicaments*, of which we are to conſider three things.

1. The *Antepredicaments*, which are firſt to be learned, becauſe the knowledge of them conduceth much to the underſtanding of the *Predicaments* themſelves.

2. The *Predicaments*, which are ten *Orders* to which, as is ſaid, all *Theams* muſt be reduced.

3. The *Poſt-predicaments*, which muſt be handled after the *Predicaments*, becauſe the perfect knowledge of the *Predicaments* cannot be attained without theſe.

I begin with the *Antepredicaments*, the which are three in *general*; and ſeven in *ſpecial*

ſpecial, to wit, three *Definitions*, two *Diviſions* and two *Rules*.

The *Definitions* are of *Æquivocals*, *Univocals*, and *Denominatives*.

Æquivocals are ſuch things as *have the name common to many*. But the reaſons for which it is applied to *many* are diverſe; as that Domeſtick *living creature* is call'd a *Dog*, and a certain *Star* in the Heavens is call'd a *Dog*; now the name *Dog* is common to both, but the domeſtick creature is call'd a *Dog* for one reaſon, to wit from *barking*; the *Star* is call'd a *Dog*, for another reaſon *viz.* the *Anology* that it hath to a *Dog*. So a *living man* and a *painted man* agree in the common name of *men*, but the reaſons for which they are ſo called are diverſe.

The common names which for diverſe reaſons are given to the ſeveral things ſignified by them, are called *Æquivocating Æquivocals*, and the things expreſſed by thoſe names, are called *Æquivocated Æquivocals*, thus a *man* is an *Æquivocating Æquivocal*; a *living man* and a *painted man* are *Æquivocated Æquivocals*.

Æquivocals are either ſuch as are.

1. *By chance*, of which no reaſon can be given for their being called by that common name, or

2. *By*

2. *By counſel*, of which ſome reaſon of dependency or ſimilitude may be given for their being called by that common name, as a *living man* and a *painted man*, and thoſe are *Synechdochically* called *Æquivocals by Analogy*.

Of both which theſe *Canons* are to be obſerved.

1. *Æquivocal* words if they be not diſtinguiſhed, and taken in one ſenſe, are of no uſe in any ſcience.

Every *Ens* or *Entity* in reſpect of the ten *Predicaments*, is a common *Analogous* thing.

3. Every *Analogous* thing put by it ſelf is to be taken in the moſt common ſignification.

Univocals, are ſuch things as have a common name, and the reaſon for which it is applied to many, is one and the ſame in them all; thus the name of a *living creature* is common both to *man* and *beaſt*.

The common names which are for the ſame reaſon attributed unto many are called *Univocating Univocals*. And the things expreſſed by theſe names are called *Univocated Univocals*; thus a *living creature* is an *univocating Univocal*; and *a man*, *a Bull*, *a Lyon* are *univocated Univocals*.

Denominatives are ſuch words, as being of

of near affinity in *ſound* and *ſignification*, d
differ in *termination*, as *Juſtice* and *Juſt*.

In every *Denomination* there are thre
things.

1. *The Form denominating*; and that
ſome *Accident* in the Abſtract, which
inherent in the ſubject; as *Juſtice*.

2. *The Subject Denominated*, and that is
ſubſtance in which the form is inherent, a
Socrates.

3. *The Denominative*, and that is ſome *Ac-
cident* in the *Concrete*, which is predicated
of the ſubject, and riſeth from the form,
as *Juſt*.

The Form Denominating, and the *Denomi-
native*, as *Juſtice*, and *Juſt*, in reference to

- The *Word*
  - Agree in the *beginning*.
  - Differ in the *end*.
- The *ſignification*
  - Agree in the *thing*, &
  - Differ in the *manner*.

The uſe of theſe *Definitions*, is, that the
form of *predication Æquivocally*, *Univocally* and
Denominatively may be the better known.

1. *Æquivocal predication* is in reference to
the *name*, but not in reference to the *defini-
nition*, and thus every *ens* or *entity* is *predica-
ted* of in the ten *predicaments*.

2. *Univocal predication* is in reference to
the *name* and *definition* both; thus *ſuperiours*
are

e *predicated* of the *inferiours* of the ſame
dicament.

3. *Denominative predication*, is to be *pre-*
cated in the Concrete, as an *Accident* is *pre-*
cated of its ſubject, thus the *Accidents* in
e nine laſt *predicaments* are *predicated* of the
bſtances in the firſt.

The *Diviſions* belonging to the *Antepre-*
icaments are two, one is of *words* and the
ther of *things*.

A *Word* is either *Simple* or *Compound*.

A *Simple Voice* or *Word* is threefold.

1. In reſpect of the *ſound* only, when one
ord doth ſignifie many things, as *a Dog*,
nd every *æquivocating æquivocal*.

2. In *ſubſtance* and *ſignification*, when
more words than one, are uſed to expreſs
ne thing as *a living creature*, *for an A-*
imal.

3. In *ſound* and *ſubſtance* both, when one
ord doth expreſs one only thing, as *a man*,
n Animal.

A *compounded voice* or *word* is alſo threefold.

1. In reſpect of the *ſound* only, as when
more words than one are uſed to expreſs one
only thing, as *a living body* for *an Animal*.

2. In *ſubſtance* and *ſignification*, when one
word expreſſeth diverſe things, as *a Dog* is
one word, but hath diverſe *ſignifications*, as
every

every *æquivocating* *æquivocal* hath.

3. In *ſound* and *ſubſtance* both, as whe they are diverſe words, and theſe diver words do ſignifie more things, as the words *a learned man*, do ſignifie the *ſubſtan* and the *quality*.

Things are either *Univerſal* or *Particula* and both of them are either *ſubſtances* or *ac cidents*.

1. *Univerſal ſubſtances* are ſpoken of th ſubject but are not in it, as a *man* is predica ted of *Socrates* and *Plato*, but inhereth not i any ſubject.

2. *Particular ſubſtances* are neither predi cated of the ſubject, nor inherent in it, be cauſe they are *individual ſubſtances*, as *Socra tes*.

3. *Univerſal accidents* are both predicated of, and inherent in their ſubjects, as *White neſs* is ſpoken of *this*, or *that Whiteneſs*, and may be inherent in *a man*, or *a wall*, or *a ſhip*.

4. *Particular accidents* are not predicated of any ſubject, but are inherent in ſome, as this *whiteneſs* is in *Socrates*.

A *Subject* is either of *inheſion* or *predicati n*.

A *Subject* of *inheſion* is that in which ſome *accident* doth inhere; thus a *wall* in reſpect of

whiteneſs is a *ſubject* of *inheſion*, and *accidents* ly are capable of ſuch a *ſubject*.

A *ſubject* of *predication*, is that of which any ing is predicated *eſſentially*: and ſo every feriour thing is the *ſubject* of his ſuperiur; every univerſal *ſubſtance* as well as eve- univerſal *accident*, is capable of ſuch a bject.

A thing may be ſaid to be *inherent* in a ubject eight ſeveral ways.

1. *Perfectively*, as a *part* is in the *whole*, nd thus a *hand* may be ſaid to be in a an.

2. *Comprehenſively*, as the *whole* is in its arts, and thus a *man* may be ſaid to be in ll his *members*.

3. *Poteſtatively*, as a *Species* in its *Genus*, hus *man* may be ſaid to be in an *Animal*.

4. *Actually*, as a *Genus* in its *Species*, thus n *Animal* may be ſaid to be in *a man*.

5. *Authoritatively*, as a *King* in his *Kingdome*.

6. *Eminently*, as a thing in the *end* thereof, and thus *vertue* may be ſaid to be in *happineſs*.

7. *Circumſcriptively*, as a thing in its *place*, thus *Socrates* may be ſaid to be in a *houſe*.

8. *Inherently*, as an *Accident* in its *Subject*, and

and thus *heat* may be ſaid to be in *fire*.

Of theſe ſeveral ways we are here to derſtand the laſt only, to wit of *Inheſion*, *heat* is in *fire*, or as an *accident* in its *ſubject*

The firſt *Antepredicamental rule* is th *Whatever may be ſpoken of the predicate, ma ſpoken of the ſubject of that predicate* alſo; whatſoever may be ſpoken of an *Animal*, m be ſpoken of *every ſort* of *Animals*, as of *m beaſts*, and ſuch like.

The *limitations* of this *rule* are many, b the moſt conſiderable are theſe three.

1. That you proceed not from *words things*, that is, from *words* of the *firſt*, *words* of the *ſecond* intention: whence it follo not : *Animal* is a *Genus*, A *man* is an *An mal*, therefore *man* is a *Genus*.

2. That you paſs not from one ſide the *predicamental* order, to the othr, an hence it doth not follow; *Man* is an *Anima* an *Animal* is *rational* or *irrational*, therefo *man* is *rational* or *irrational*.

3. That you proceed not from the *con creet* to the *abſtract*; and hence this doth no follow; A *man* is *juſt*, *Juſtice* is a *quality*; there fore a *man* is a *quality*.

The ſecond *Antepredicamental rule* hath two parts. The *firſt* is this; *ſubaltern Ge neralls* have the ſame *Species* and *differences*

a *body* and an *Animal* have the ſame *differences.*

The *ſecond* part is this: *Generals* not *Subern* have not the ſame *Species* and *differen*; as *ſubſtance* and *qualitie.*

They are ſaid to be *ſubaltern Generals*, hereof one is *eſſentially* contained by the her; as an *Animal* and a *Body.*

And they are ſaid not to be *Subaltern enerals*, where the one is *not eſſentially* conined of the other; as an *Animal* and a *ience.*

The chief uſe of this *Rule* is, to prevent e confounding of the *Predicaments*, and diſtinguiſh things between themſelves, at do belong to diverſe *predicaments.*

CHAP. VII.

Of the Predicaments in General.

THe *particular orders* or *predicaments*, to which all *ſimple Theams* may be reduced are ten, of which ſome are *more principal* ſome *leſs.*

2. The *more principal predicaments* are the rſt ſix; and theſe are of two ſorts; one of *ubſtance* and the other of *accidents.*

3. *Predicamental*

3. *Predicamental ranks* or *Orders* of *Accidents* are of two ſorts. 1. *Abſolute* as the *Predicaments* of *Quantity*, *Quality*, *Action* and *Paſſion*, 2. *Relative* as the *Predicament* of *Relation*.

4. The *leſs principle predicamental ranks* or *orders*, are theſe four: *When*, *where*, *ſituation*, and *Habit*. And in theſe ten *predicaments* are all to be ranked, which can be *predicated* or ſpoken of any thing, *Directly*, *Collaterally*, or by *Reduction*.

Firſt then, *Directly* and *primarily*, every *ſupream Genus*, or every thing of which the *ſupream Genus* may be predicated *eſſentially* may be placed in the *predicamental* ſcale and thus all *Generals*, *Specials*, and *Individuals* are placed in them.

Secondly, *Collaterally* or ſideways; and ſome things are placed in the *predicamental* order, which are not ſpoken or predicated of the *ſupream Genus*, but yet do divide the *Generals* and conſtitute the *ſpecials*, and thus *eſſential differences* only are there placed.

Thirdly, *indirectly* or by *Reduction*: thus *Matter* and *form* are in the *predicament* of *Subſtance*; *a point* and *unitie* in *quantity*, and a *proper accident* is in the ſame *predicament* with its *Species*.

The *Canons* or *Rules* are four.

1. All

1. All *words* of *Ambiguity* or *doubt*, at leaſt before they be diſtinguiſhed and limited, with all *feigned* and *impoſſible things*, are excluded the *predicamental* order.

2. Every *real finite*, *ſimple* and *Univocal thing* is in ſome *predicament*, *directly*, *collaterally* or by *Reduction*.

3. *Individuals* are in ſome *predicament*, not for *themſelves*, but by reaſon of *their Species*.

4. No one and the ſame numerical thing, can be in diverſe *predicaments*, either in one reſpect or in diverſe.

CHAP. VIII.

Of Subſtance.

A Subſtance *is a thing ſubſiſting of it ſelf*, and it is either *firſt* or *ſecond*.

2. The *firſt ſubſtance* is a *ſingular ſubſtance*, a *ſubſtance* that cannot be predicated of a *ſubject*; as *Alexander*, *Bucephalus*.

3. The *ſecond ſubſtance* is an *univerſal ſubſtance*, or a *ſubſtance* which may be predicated of its *ſubject*, as a *man*, a *horſe*.

4. The *firſt ſubſtance* is *chiefly* and *properly* *ſubſtance*, and among the *ſecond ſubſtances*, every one is by ſo much more a *ſubſtance*,

by how much it is nearer to the *first*.

The *Rules* or *Properties* are ſix.

1. *A Subſtance is not in its ſubject.* This agreeth to every *ſubſtance*, and to every *ſubſtance only*, but not *only* to thoſe which are *compleatly* ſo, but to the *differences* and *parts* of *ſubſtances* alſo.

2. *A Subſtance is univocally predicated of thoſe things of which it is predicated.* This agreeth to all *ſecond ſubſtances* and their *differences*, and no other, for the *firſt ſubſtances* are not *predicated* of any *ſubject*.

3. *Every firſt ſubſtance, doth ſignifie ſome particular thing.*

4. *A ſubſtance, as it is a ſubſtance, is not contrary to another, but as it hath accidents or qualities*: thus *fire* and *water* are contrary not as they are *ſubſtances*, but in reference to their *qualities* of *heat* and *cold*. &c.

5. *A Subſtance, as it is a ſubſtance, is not varied by degrees, or receiveth not more and leſs, but the variance or compariſon is in reſpect of accidents*; as *a wiſe man* and *a fool*, *an old man* and *a child*: one *water* hotter than another, theſe differ in *qualities* not in *ſubſtance*.

6. One and the ſame *numerical ſubſtance* is capable of contrary *Accidents*. As *water* may be now *ſeething hot*, and anon *as cold as Ice*.

CHA

CHAP. IX.

Of Quantity.

HItherto we have ſpoken of the *predicament* of *Subſtance*, thoſe of *Accidents* ow follow; and *firſt* thoſe that are *abſolute*- ſo; as *Quantity*, *Quality*, *Action*, and *paſ-* *ion.*

2. Quantity *is an abſolute Accident, by hich a thing is ſaid to be great*, in bulk *or* umber.

3. And hence *quantity* may be ſaid to be wofold, *continued* or *diſſevered.*

4. *Continued Quantity* is that, *whoſe parts re joyned together by a common terme.*

5. *Diſſevered Quantity* is that, *whoſe parts re not joyned together by a common term*, and is is nothing elſe but *number.*

6. *Continued Quantity*, is either *ſucceſſive*, hoſe parts conſiſt in *ſucceſſion*; and then it *time*: or *permanent*, as *magnitude*, and *ace.*

7. Every *Magnitude* is either, a *line*, a *ſu-* rficies or a *body.*

8. *A line is a Magnitude which can be di-* ded *but one way*; the *limit* whereof is a *point*, r every *line* is made, continued, and bounded ith a *point.*

9. *A Superficies is a Magnitude which may be divided two ways*; the *term* or *limit* thereof is a *line*.

10. A *ſolid* or *body*, is that, *which may be divided three ways*, namely by *length*, *breadth*, and *thickneſs*, whoſe *term* or *limit* is a *ſuperficies*.

11. *Place* is that *which meaſureth ſomething beſide the ſubject in which it is*, namely the *thing* which is placed; this ſeems to be referred to a *ſuperficies*: for, *Place* (according to *Ariſtotle lib. 4 phyſ. cap. 14*) *is the ſuperficies next to the body that is conteined in it*.

The *Canons* or *Rules* are three.

1. *Nothing is contrary unto Quantity in it ſelf, but in reference to its Qualities only*; thus *winter* is contrary unto *ſummer*, in reſpect of *heat* and *cold*.

2. *Quantity cannot receive more or leſs*. As one *houſe* is not *more* or *leſs* a *houſe* than *another*, though *one* be a *greater houſe* than *another*.

3. Things may be ſaid to be *equal* or *unequal*, in reſpect of *Magnitude* or *greatneſs*.

CHAP

CHAP. X.

Of Quality.

Quality *is an absolute accident, by which it is simply and determinately declared what kind of thing that subject is, of which it is the quality.*

2. *Quality* is the most copious of all the *predicaments*; and it is of two sorts, *Patible* or *Impatible.*

3. An *impatible quality*, is such a *quality*, as doth not cause any passions in the senses, or any way affect them: and this is either *innate* or *acquired.*

4. An acquired *quality*, is such a *quality*, as is *begotten by labour*; and this *Aristotle* maketh the *first species*; and this is either *hardly* removed from the subject, and is called a *habit*, as *vertue*: or *easily* removed from the subject, and is called *disposition*, as *a disposition unto vertue.*

5. An *innate*, or *inbred quality*, is such a *quality* as is *natural*, and this *Aristotle* maketh the *second species*; this maketh the subject apt and fit for action, and is some *natural faculty* or *power*, as *risibility* is a *faculty naturally* belonging unto *man.*

6. A *Patible quality*, is ſuch a *quality* as doth *affect the ſenſes and cauſeth paſſion in them:* and that either, by *it ſelf* or by *accident.*

7. *A Patible quality affecting the ſenſe by it ſelf*, *Ariſtotle* maketh the *third ſpecies*, and is that which either *affecteth* the *body* or the *mind.*

8. A *Patible quality* which doth by *it ſelf affect the body*, is either ſuch a *quality* as *cannot* be eaſily moved, as *whiteneſs*; or ſuch a *quality as may* be eaſily removed, and is ſome *paſſion* of the *body*, as *bluſhing.*

9. A *Patible quality* which doth *of it ſelf affect the mind*, is alſo either *hardly* removed, as *inveterate anger*, or *eaſily* removed, as ſome *ſudden paſſion* of *love*, or *hatred.*

10. A *Patible quality* which doth *affect the ſenſes, or cauſeth paſſion by accident*, *Ariſtotle* maketh the *fourth ſpecies*, and this is *external proportion*, either in things *natural*, and then it is the *form* of the thing, or in things *artificial*, and then it is the *Figure.*

11. To the *firſt ſpecies* of *quality*, do all the *habits* of the *body* belong; as *health*, *ſickneſs*, and all kind of *diſeaſes*; and all *infuſed habits*, as *faith*, *charity*, and the *gift of tongues*; with all diſciplines, whether of *arts*

or

or *ſciences* both *ſpeculative* and *practical*, as *Logick*, *Geometry*, *Phyſicks*, *Metaphyſicks*, and *Divinity*, and all both *vertues* and *vices*.

12. To the *ſecond ſpecies* of *Quality* belong all *faculties* proceeding from the *eſſential formes* of all *ſubſtances*; as the *faculty* of *willing*, *ſpeaking*, *laughing* in *man*, of *neighing* and *running* in a *horſe*; and the *vertue* of *herbs*, *mettals* and *ſtones*; all *occult qualities*, as *ſympathy*, and *Antipathy*, and all *influences* of *celeſtial bodies*, the *temperament* of the *body* and *diſpoſition* of the *mind*, and ſuch like.

13. To the *third ſpecies* of *quality* belong all *objects of ſenſe*, as of *ſeeing*, *taſting*, *ſmelling*, *hearing* and *feeling*.

14. To the *fourth ſpecies* of *quality*, belong all *Mathematical figures*, with all *natural* and *artificial forms* of *bodies*.

The *Canons* or *rules* of *qualitie* are three.

1. *Qualities only admit of contrarieties*; as *heat* and *cold*; the *contrariety* of *qualites* is moſt diſcernable in the *third ſpecies*, ſometimes in the *firſt*, but not ſo frequently in the *ſecond* and *fourth*.

2. *Qualities do admit of degrees, as more and leſs*; but this doth not belong to all *qualities*.

3. *Things in reference unto their qualities may be ſaid to be like or unlike.*

CHAP. XI.

Of Action.

Action is *an accident, by which a ſubject is ſaid to be doing*: and that by one of theſe three waies.

1. By ſome *intrinſick quality*; as *fire* by its *heat acts* in the *water*.

2. *Inſtrumentally*, as he that *effects* ſome thing with a *ſword* or *gun*, or ſuch like.

3. By the very *formality* of *action*, and ſo it is to be taken in this *predicament*.

2. *Action*, as it is taken in this *predicament* is twofold *immanent* or *tranſient*.

3. An *immanent action* is that, which *doth not cauſe any real change in the thing that ſuffers*, as *underſtanding, ſight*.

4. A *tranſient action* is that, which *doth occaſion a real change in the thing that ſuffers*, as *heat, cold* &c.

The *Canons* or *Rules* of *Action* are three.

1. *Action doth admit of contrariety.*

2. *Actions*

2. *Actions are capable of more and leſs.* Theſe wo *rules* are not proper unto actions in eſpect of *themſelves*, but by and for *their ualities*, by means of which the *Agent act-th:* nor are they agreeable to every *action*: nd this is moſt proper unto *action.*

3. *Every action doth of it ſelf infer paſ-ion.*

5. Paſſion *is an accident by which the ſubject s called* patient; or, *it is the effect and a certain eception of action:* for every *paſſion* is recei-ed not ſo much by the *condition* of the *a-ent*, as by the *diſpoſition* of the *patient.*

6. *Paſſion* is either *tranſmutative* or *in-entional.*

7. A *tranſmutative paſſion*, is that which *iketh ſome real alteration in the patient; and nſwereth unto a tranſient action.*

8. An *intentional paſſion*, is that which *erminateth the action without any real altera-ion in the patient*; and this anſwereth to an *mminent action.*

The *Canons* or *Rules* of *Paſſion* are hree.

1. *Paſſion doth admit of Contrariety:*

2. *Paſſion admitteth of more and leſs*; both heſe are to be underſtood, as in the *pre-dicament* of *action* hath been declared.

3. *Paſſion is of it ſelf and immediate infer-*

red from action: and this is is moſt proper unto *paſſion*.

CHAP. XII.

Of Relation.

HItherto we have ſpoken of ſuch *predicaments* as are *abſolute accidents*, come we now to that which is *reſpective*, namely *relation*.

2. Relation *is a reſpective accident, by which one thing is predicated of another, or by ſome way may be referred unto another.*

3. *Relation* is twofold, *intentional* or *real*.

4. *Intentional Relation* is that *by which ſome ſecond intention is referred to another*; thus *Genus* and *ſpecies*, the *cauſe* and the *cauſed*, the *ſubject* and the *accident*, are things that are *related*.

5. *Real relation* is that *by which the thing it ſelf is referred unto another*; and this is twofold.

1. *Accidental*, when one thing is referred not in reſpect of its *eſſence* or *nature*

ture, but only by *Accident*, as *poſſeſſor* and *poſſeſſion*.

2. *Eſſential*, when one thing is referred unto another according to its *nature* and *eſſence*, as *Father* and *Son*, *Maſter* and *ſervant*.

6. In every *Relation*, two things are required, the *ſubject* and the *term*.

7. That is called the *ſubject*, which *is referred unto another*, and that the *term*, to which the *ſubject is referred*.

The *ſubject* is called the *Relate*, and the *term* is called the *Correlate*.

9. The *relate* and *correlate* are mutually referred to one another; and that by a double relation; in which reciprocation, that which is the *ſubject* of *one relation* is the *term* of the *other*, and the contrary.

10. In like manner that which is the *relate* in *one relation*, is the *correlate* in the *other*; and the contrary.

11. Every *relate* or *reſpective* is founded in ſome *abſolute predicament*; as *æquality* in *quantity*, *likeneſs* in *quality*, *Paternity* in *action*.

12. *Relates* and *Correlates*, as they are ſuch, are both together in *nature* and *knowledge*, and ſo do mutually put or take away one another, as well in *being*, as in *knowing*.

13. *Relates*

13. *Relates* are taken two ways.

1. *Materially* for thoſe things with which the *Relations* do agree: as a *father* is taken for the *man begetting*, the *Son* for *him that is begotten*; and ſo they are not *together* in *nature*, for the *father*, as a *man*, muſt needs be *before* the *ſon*.

2. *Formally*, for that very *relation* which is in the ſubjects, by which the *terms* are mutually referred to one another; as the *father* to his *ſon*, and ſo they are in *nature* together.

14. *Knowledge* and *knowable* are taken three ways.

1. Both *Actually*, thus, *that* is called *knowledge*, *by which we actually know a thing*; *that knowable*, *which is actually known*; and ſo they are in *nature* together.

2. Both *potentially*, as *that* is called *knowable*, *which may be known*; and *that knowledge*, *which we may know*: and ſo alſo, they are in *nature* together.

3. One *Actually* and the other *potentially*; and ſo *knowledge* is taken for that *which we actually know*, and *knowable* for *that which may be known*, and ſo they are not both together in *nature*.

The *Canons* or *Rules* of *Relates* are three.

1. *Relates admit of contrariety.* A *Relate* is not

ot contrary to its *Correlate*; but *one Relate* contrary to *another*: yet not in respect of *themselves* but in respect of *their subjects*. This *rule* therefore doth not hold in all, but in such *relates* only, which have contrary *foundations* or *subects*; thus a *friend* and an *enemy* are contrary, because the *foundations* of *friendship* and *enmity*, to wit, *wishing well* and *wishing ill*, are contrary.

2. *Relates are capable of more and less*: this *rule* also holds in respect of the *subject* or *foundation*; and therefore in those *relates* only, which have a *changable subject* or *foundation*. For when the *subject* or *foundation* is varied, the *Relation* is intended or remitted. For example, *unequal* things are made *more* or *less unequal*, when *Quantity*, which is the *subject* of *inequality*, is in one of the two, *more* or *less*.

3. *Relates are convertible*; that is, *every Relate is referred to its reciprocal Correlate*; as a *master* is the *master* of a *servant*, and a *servant* is the *servant* of some *master*.

CHAP.

CHAP. XIII.

Of the four laſt Predicaments.

HItherto I have ſpoken of the *principal predicaments*; the *leſs principal* now follow and they are four, *When*, *Where*, *Situation*, *Habit*.

2. *The* Predicament When, *is an* Accident, *by which finite things are ſaid to be in time, paſt, preſent, or to come.* The words belonging to this *predicament*, make anſwer to ſuch queſtions, as are made by this word *When*, as *to day*, *to morrow*, *yeſterday*, and the like. The properties thereof is, to accommodate *time*, to *perſons*, *things* or *Actions*.

3. *The Predicament* where, *is an Accident, by which things finite are ſaid to be in ſome place*; *where*, is not the *place it ſelf*, but notes the *manner* or *circumſtance of place*, and maketh anſwer to ſuch queſtions as are made by this word *where*; as *at home*, *within*, *without*, *in this* or *that Countrey*, &c. The property thereof, is to accommodate *place*, to *perſons*, *things*, and *actions*.

4. *The Predicament of* Situation *is a certain*

in Ordination of parts and generation, or, *a acing of parts in Generation*: to make up *ſi-ation* a threefold habitude is required.

1. Of the *parts* of ſome *whole* among *themſelves*.

2. Of the *parts* of ſome *whole* unto *that whole*.

3. Of the *parts* and the *whole* in reference to *place*.

Yet every *ordination of parts* is not *ſite* or *ituation*, but that only which they have in he *whole* by *Generation*. The propertie hereof is to be the neareſt aſſiſtant unto *ubſtance* of all the extrinſecal reſpective *acidents*.

All *geſtures* and *poſitions* of body belong to this, as *ſtanding*, *ſitting*, *walking*, *&c.* Not as they ſignifie theſe actions, but as they ſignifie the *poſition* and *order* of the parts in the *whole*, or in *ſome place*.

5. *The predicament of* Habit, *is an accident by which ſome garment*, or *ſomething like a garment, is put about, hanged upon, or any other way joyned to a body*. The *body* having it, is a *ſubſtance*; the *thing habiting* is always ſome *artificial form* belonging to the fourth *Species* of *Qualitie*. The Application of this to it, is that which maketh this *predicament*; The propertie thereof is always to be inherent in many,

many, in the *habit*, and in him that hath it, but in divers reſpects; for it is in the *body* that hath it, as in a *ſubject*, in the *habit* or *thing framed*, as in a *cauſe*.

To this belong all kind of *garments*, whether they be ſuch as are uſed for *neceſſity*, as *ſhoes* for the *feet*, and *cloaths* for the reſt of the body; or for *diſtinction*, as a *Mitre*, a *Gown* whether for *Divines*, *Lawyers* or *Citizens*; or for *ornament*, as *rings*, *Jewells*, *Deckings*, and the like.

CHAP. XIV.

Of Oppoſition.

HAving done with the *Antepredicaments*, and the *Predicaments* themſelves, the *Poſtpredicaments* now follow, and they are four.

Oppoſition, *Order*, *Motion* and *Manner of having*.

2. Oppoſition *is ſuch a repugnancy of two ſimple terms, as neither the one can agree with the other, nor both of them with a third, after one and the ſame manner.*

3. *One* of the *oppoſites* is either *oppoſed* to

one

ne or to *many*; thoſe *oppoſitions*, where *one* is oppoſed to *many*, are called *Diſparates*; as a *man* and *a horſe*, of which *Ariſtotle* in his *Logick* makes no mention, nor are they to be reckoned amongſt the kinds of *oppoſition*.

4. Thoſe *oppoſitions* where *one* is *oppoſed* to *one*, are either of *a thing* and *a thing*, or of *a thing* and *not a thing*.

5. *Oppoſition* of *a thing* and *a thing*; is either *Relative* or *Contrary*.

6. *Relative oppoſition*, is between the *relative* terms, as the *relate* and his *correlate*: for though the *relates* do mutually depend upon one another, in reference to their *ſimple being*, yet are they oppoſed to one another in reference to their *being in a ſubject*: as *father* and *ſon*, but this is the leaſt kind of *oppoſition*: The conditions belonging to theſe are ſet down in the *Predicament* of *Relation*.

7. *Contrary oppoſition* is between *contrary* terms: And theſe are called *contraries*, that being contained under the ſame *Genus*, are at the greateſt diſtance between themſelves, and mutually expell one another, from the ſame ſubject, that is capable of them; as *heat* and *cold*.

8. *Contraries* are of two ſorts, *mediate* and *immmediate*.

9. *Immediate contraries* are ſuch as admit of

of *no medium* between them, but the one of them is always in the ſubject, that is capable of them, as *like* and *unlike*, *health* and *ſickneſs*.

10. *Mediate contraries* are ſuch as do admit of *ſome medium*; ſo that though one be expelled it is not neceſſary that the other ſhould be in that ſubject, from which the firſt is expelled, as *white* and *black*.

The *Canons* or *Rules* of *Contraries* are theſe following.

1. *True contrarietie by it ſelf is not to be found but in qualities by themſelves, and abſolutely taken.*

2. *Contraries in the higheſt degrees, cannot be in the ſame ſubject*; ſo what is *hot* in the higheſt degree cannot be *cold* at all; but in remiſs degrees they may *both* be in the *ſame* ſubject.

3. *One of the contraries being remitted, the other is intended or heightened and the contrary:* for every ſubject capable of two *contrary* qualities, muſt needs be filled up with the whole poſſible latitude of one of them.

11. *Oppoſition* of *a thing* and *not a thing*, is either *privative* or *contradictory*.

12. *Privative oppoſition*, is between *Habit* and *privation*. And Habit *is the preſence of a thing in a fit ſubject*; but privation *is the abſence*

nce thereof: as *ſight* is a *habit*, *blindneſs*, *pri-* *tion.*

The *Canons* or *Rules* are three.

1. *Habit and privation are about the ſame ubject.* And hence *privation* cannot properly e, but in that ſubject which is capable of he *Habit*; a *man* therefore may be ſaid to e *blind*, but a *ſtone* cannot.

2. *Privative oppoſition requires determinati-n of a certain time; neither can privation be poken of a ſubject, but after the time that by ts nature and fitneſs it might receive the habit;* s none can be ſaid to be *bald*, until the *time* hat according to nature, they ſhould have air.

3. *From privation to habit there is no regreſs aturally, the privation being perfect*; that *ſuch as doth take away the act, and next be-innings of habit, and leaveth nothing in the ubject but the remote beginnings thereof*; thus e that is once *quite blind*, cannot ordinarily and by natural means *ever ſee again*.

13. *Contradictory oppoſition* is between *con-adictory* terms. And thoſe things are ſaid be *contradictory*, which are expreſly contrary as *affirmation* and *negation*: as *a thing* nd *not a thing*, *a man* and *not a man*.

The Canons or *Rules* are two.

1. *Contradiction is the firſt of all oppoſitions,*

and

and ſo the meaſure of all the reſt: for in every *oppoſition* there is *virtually* included a *contradiction*; and the *oppoſition* is to be thought ſo much the greater, by how much it cometh nearer to a *contradiction*.

2. *Between contradictory things, there is no medium*; neither of *abnegation*, or of the *ſubject*, (and therefore one of the *contradictory* things is affirmed of a *thing*, and *not a thing*) nor of *participation*, or of the *form*.

CHAP. XV.

Of Order, and of that which is ſaid to be together, before, or after.

ORder *is that, according to which ſome thing is ſaid to be before, or after another thing, or together with it.*

2. A thing may be ſaid to be *before* or *after* another five ſeveral waies. 1. *In time.* 2. *In nature.* 3. *In diſpoſition*, or *order.* 4. *In honour.* 5. *In Cauſality.*

3. That is ſaid to be *firſt in time*, that is the moſt ancient; thus *Romulus* was *before Cato*, and the City *Pergamus before* that of *Rome*.

4. That is ſaid to be *firſt in nature*, which

which cannot be reciprocally affirmed in consecution of exiſtence; as, there is a *man*, therefore there is a *living creature*, but it doth not follow, there is *a living creature*, therefore there is a *man*; a *living creature* therefore is *in nature before a man*, and every *Genus before* its *ſpecies*.

5. That is ſaid to be *firſt in order* or *diſpoſition*, which is neareſt the beginning: Thus the *Exordium* in an oration is ſaid to be before the *propoſition*, the *propoſition* before the *narration*, *the narration* before the *confirmation*, *the confirmation* before *the refutation*, *the refutation* before *the concluſion*; and in every *ſcience* or *diſcipline*, that is *firſt* which is put in the *firſt* place, and thus *letters* are before *ſyllables*.

6. That is ſaid to be *firſt in honour* or *dignity*, that is the moſt worthy; thus a *King* is before his *Subjects*, a *Father* before his *Son*, a *Maſter* before his *Servant*, *Gold* before *Silver*, and *Vertue* before *Gold*.

7. That is ſaid to be *firſt in Cauſality*, which is any way the cauſe of another's exiſtence; thus the *Sun* is before *Light*.

8. So many waies as a thing may be ſaid to be *before* another, it may alſo be ſaid to be *after*.

9. So many waies as a thing may be ſaid to

be *before* another, it may be alſo ſaid to be *together* with another; but two of the waies are more uſual than the reſt, together *in time*, and together *in nature*.

10. They are ſaid to be *together in time* that are exiſtent at the *ſame time*.

11. Things may be ſaid to be *together* two waies *primarily* and *ſecundarily*.

12. They are ſaid to be *primarily together in time*, which begin to be at the *ſame time*, and they are ſaid to be *ſecundarily together in time*, when the one begins to be, *before* the other doth ceaſe to be; thus *Ariſtotle* and *Plato* are ſaid to be *cotemporaneous*, or *together in time*; though *Plato* was born *before Ariſtotle*, and did alſo die *before* him.

13. Things may be ſaid to be *together in nature* two ways; firſt *ſimply* and *abſolutely*, and then in reſpect of ſome *third*.

14. Things are ſaid to be *together ſimply and abſolutely*, which are *reciprocally together*; according to the conſecution of exiſtence, but ſo that the one is not the cauſe of the others exiſtence. Thus the *relate* and *correlate* are *together in nature*; and two *effects* depending upon the *ſame* next cauſe, as *riſibility* and *docibility* in man.

15. Things are ſaid to be *together* in reſpect of ſome *third* thing, which under the *ſame*

ſame Genus are in *diviſion* oppoſed to one another; thus a *man* and a *beaſt* are ſaid to be *together in nature*, not *ſimply* and *abſolutely* in reſpect of *themſelves*, but in reſpect of a *living creature*, for a *living creature* is predicated of them *both together*, and not of *one firſt*, and *another after*. In this a *Synonymous Genus* is diſtinguiſhed from a *homonymous* or *æquivocal Genus*; becauſe this is not predicated of its *ſeveral ſpecies together*, but of *one firſt*, and *another after*.

CHAP. XVI.

Of Motion.

CONcerning *Motion*, four things are to be conſidered. 1. *The Præcognita*. 2. *The Definition*. 3. *The ſeveral kinds*. 4. *The Rules* belonging to it.

2. The *Præcognita* are either ſuch as concern the *definition*, or ſuch as concern the *diviſion* thereof.

3. The *Præcognita* concerning the *definition* of *motion*, are three. 1. The *ſubject* in which it is. 2. The two *terms from which*, and *to what*. 3. The *meaſure*, or *inſtant time*, and from theſe three every *motion* muſt be defined.

4. The

4. The *Præcognita* concerning the *diviſion* of *motion*, or the *ſeveral kinds* of it, are alſo three.

1. *Motion* is taken two waies, *viz.* either *generally* for any mutation, whether it be in *time*, or in *an inſtant*, and thus it comprehendeth *Generation* and *Corruption*; or *ſpecially* for ſome mutation which is *made* and *meaſured* by *time*, & thus it comprehendeth theſe four *ſpecies*, *augmentation*, *diminution*, *alteration* and *location*, and not *Generation* & *Corruption*.

2. *Motion* as it is divided here, is *motion* generally taken, and as it comprehendeth all theſe mutations.

3. *Motion*, although it be put as a *poſt-predicament*, yet it is alſo in a *predicament*, but in a diverſe manner; it is in the *predicament* of *poſition* as it is in its own nature, but here as it is taken in reference to its terms, *from which*, and *to what*.

5. *Motion*, in the general is thus defined. Motion *is a mutation made in the ſubject*, (viz. *either in the firſt matter*, *or in the body*) *from one term to another*, *either* in time, *or* in an inſtant.

6. *Motion* is twofold *inſtantaneous* or *ſucceſſive*.

7. *Inſtantaneous motion* is that, which is made in an *inſtant*, and this is *Generation*, or *Corruption*.

8. *Generation is an inſtantaneous motion, which*

which causeth a mutation, either in the first or second matter, as in the subject, by the privation of form as the term from which, *to another form as the term* to which, *the motion is made.*

9. Corruption *is an instantaneous motion, which maketh a change in the same matter from a substantial form to the privation thereof,* or from *a thing to not a thing.*

10. *Successive motion,* or *motion* that is made in time, is either a *motion* to *quantity,* to *quality,* or to *place.*

11. *Motion* to *quantity,* is that, whose *terms* are in *quantity,* and this is either *augmentation* or *Diminution.*

12. *Augmentation* is such a *motion,* as *maketh a successive mutation in the body, from a less quantity to a greater.*

13. *Diminution* is such a *motion,* as *maketh a successive mutation in the body, from a greater quantity to a less.*

14. *Motion* to *quality,* otherwise called *alteration, is a successive mutation from one contrary quality to another.*

15. *Motion* to *place,* or *local motion,* is such a *motion,* as *maketh a successive mutation in the body, by removing it from one place to another.*

The *Canons* or *Rules* to be observed, are these five following.

1. *Every motion is diſtinguiſhed by its own term to which it is made, conſidered formally*: for although that *Augmentation* and *Diminution* are to *quantity*, yet the motion of the one is to a *leſs*, and the other to a *greater quantity*.

2. *Some motions are diſtinguiſhed by their meaſure*, as *Generation* and *Corruption* are diſtinguiſhed from the reſt, for that they are effected in an *inſtant*, whereas all other motions are performed in *time*.

3. *Some motions are diſtinguiſhed by the ſubject*, as *Generation* and *Corruption* are in the firſt matter, other motions in the body.

4. *Reſt is privatively contrary to all motions in the term from which it moves*: for, *reſt is the privation of motion*, viz. *of ſubſequent motion*, though it be the perfection of the *precedent*.

5. *Thoſe motions are adverſly contrary, whoſe terms are adverſly contrary*; for the *motion* from *white* to *black*, is contrary to the *motion*, from *black* to *white*.

CHAP.

CHAP. XVII.

Of the manner of Having.

A Thing may be ſaid to be *had* eight ſeveral waies.

1. *In reference to habit and diſpoſition*; and ſo it is referred to the predicament of *quality*.

2. *In reference unto quantity*; and ſo it is referred to the predicament of *quantity*.

3. *In reference unto Garments and other things which are about the body, or whole*; and ſo it is referr'd to the predicament of *Habit*.

4. *In reference to the having of a thing, in or upon ſome part*; as to have a *ring* upon a *finger*, and other things which are about the parts, and thus it is alſo referred to the predicament of *habit*.

5. *In referrence to the part of a thing*, as *to have a hand*, and this is referred to *ſubſtance*.

6. *In reference to a veſſel*, as *to have wheat*, and this is referred to the predicament *Where*.

7. *In reference to a poſſeſſion*; as *to have*

a houſe, and ſo it is referred to the predicament of *Relation*.

8. The laſt manner of *having* is the *having a wife*; and this according unto *Ariſtotle*, is the moſt improper manner of all. And this ſhall ſuffice to be ſpoken of *ſimple Theams*, whether *ſingular* or *univerſal*; and of the ſeveral *predicamental ranks* or *orders*, to which all *ſimple Theams* may be reduced, and in which they may be ranked and placed.

CHAP. XVIII.

Of a Propoſition.

I Come now to ſpeak of *compounded Thames* And a *compounded Theam* is by ſome called an *Enuntiation* by others a *Propoſition*.

An Enunciation, *or* a Propoſition *is an indicative, congruous and perfect oration ſignifying true or falſe without any ambiguity.*

Concerning which we are to conſider the *parts*, the *kinds* and the *affections*.

The *parts* of a *propoſition* are two, *viz.* either the *parts ſigning*, or *ſigned*.

The *parts ſigning* are *ſimple* terms, and thoſe

those are called Simple Terms whose parts can signifie nothing, when they are separated from the whole, or no such thing as they did signifie, when they were all joined together, and these are either Categorematical or Syncategorimatcal.

1. Categorimatical or significative terms, are such simple Terms as do by themselves signifie something perfectly, and these are either Nouns or Verbs.

A Noun is a simple term or word, which doth signifie some certain thing without distinction of time; as, a man, a horse.

A Verb is a simple term which doth signifie something with some distinction of time past, present, or to come, as, he runneth.

2. Syncategorimatical or consignificative terms are such simple terms, which of themselves do not signifie any certain thing, or constitute a proposition, but being joined with other words are significative, to express the manner of such a thing; and such are all words which serve to express the quantity of a proposition, as, *all*, *none*, *some* &c. all *Adverbs*, *Conjunctions*, *Prepositions* and *Interjections*.

The parts signed are *Compounded Terms*, or such as do signifie the same thing being separated from one another, as they did signifie

ſignifie when they were joined together; and theſe terms are otherwiſe called *Orations*, and *an Oration* is either *imperfect* or *perfect*.

1. An Imperfect Oration is that which leaves an imperfect ſenſe in the mind of the hearer; as, a rational creature, a learned man.

2. A perfect Oration is that which leaves a perfect ſenſe in the mind of the hearer; and this is either *not enunciative*; that is, ſuch an oration as doth not expreſs whether a thing be true or falſe, of which there is no uſe amongſt Logicians; or *enuntiative*, that is ſuch an oration, as doth expreſs whether a thing be true or falſe; and this may be either *with ambignity*, when ſome word is ambiguous; as there is a Dog in Heaven; or *without ambiguity* when there is no word ambiguous; as in this propoſition, a man is a living creature. The *ſigned parts* of a propoſition are theſe three, the *ſubject*, the *predicate*, and the *Copula*.

Place this between the 52 *and* 53 *pages, and blot out the four firſt lines of the* 53 *page.*

those are either *categorematical*, or *syncategorematical* as was shewed before.

The *parts signed* are three, the *subject*, the *predicate*, and the *Copula*.

1. The *subject* is all that which *preceeds the Copula in the proposition*, as, *man is a living creature*; there this word *man* is the *subject*.

2. The *Predicate* is all that which *is spoken of the subject*, as, *man is a living creature*; there these words *living creature*, is the *predicate*.

3. The *Copula is the principal verb joining the predicate to the subject*: and every *proposition* is some person of this verb substantive [*I am*] or of a verb adjective as in this *proposition*, *Socrates lived at Athens*.

But here two things must be observed. *First*, That *the subject doth not alwaies preceed, and the predicate follow the Copula in order of the parts or terms, but in sense or construction*; as in this *proposition*. *Hard is the way to vertue*. Where *the way to vertue* is the *subject*, and this word *hard* the *predicate*.

Secondly it is to be observed that a *proposition may be either explicite or implicite*.

1. *Explicite*, in which the three parts, the *subject*, the *Predicate*, and the *Copula* are

expreſſed, as in this propoſition, *a man is a living creature.*

2. *Implicite*, in which all theſe three parts, the *ſubject* the *predicate* and the *Copula* are not expreſſed, but ſome of them implyed, as, *I walk.* And may be reſolved by turning the verb into a participle and uſing ſome perſon of this verb [*I am*] and thus this implicite propoſition, *I walk*, is turned into this, *I am walking*; in which all the parts of a *propoſition* are expreſſed.

As for the ſeveral *ſorts* or *kinds* of *propoſitions* we muſt know, that a *propoſition* is diſtinguiſhed three ways, *viz*: 1. According to its *Subſtance*, *Quantity*, and *Quality.*

1. According to its *ſubſtance* or *parts* of which it doth conſiſt; and ſo it is either, *Categorical* or *Hypothetical.*

1. A *Categorical propoſition* is that which *doth conſiſt of one* ſubject, *one* predicate, *and one* Copula, and therefore the matter thereof are ſimple terms; as, a *man is a living creature.* And this is either *Pure* or *Modal.*

A pure categorical propoſition is, when the *predicate is* purely *affirmed or denied of the ſubject, without expreſſing the* manner *of Affirming or denying.*

A modal Categorical propoſition is that in which, *beſides the ſubject, predicate and copula,*

we

we add ſome modification to ſhew how the predicate is in the ſubject. (but of theſe afterwards.)

2. A *Hypothetical* which doth conſiſt of two *Categorical propoſitions* joyned together by ſome conjunction; as, if a *man be a living creature, then a man is a body.*

Secondly. A *propoſition* may be diſtinguiſhed in reſpect of its *quality*; and ſo *firſt*, it is *affirmative* or *negative*, and again it is in reſpect of *quality*, *true* or *falſe*; but if it be askt of what *quality* a *propoſition* is? it muſt be anſwered, that it is either *affirmative* or *negative.* *An affirmative propoſition* is that in which *the predicate is affirmed of the ſubject.*

A *Negative propoſition* is that in which *the predicate is denied of the ſubject*, as *a man is not a ſtone*, and this is the *formal quality of a propoſition.*

The *material quality* is that by which it is ſayd to *be either true or falſe.*

That is a *true propoſition* which doth agree with the thing, as, a *man is a living creature*; *a man is not a ſtone.* And that is a *falſe propoſition*, which doth not agree with the thing, as, *a man is a ſtone, a man is not a living creature.*

And becauſe the *matter* of a *propoſition* may be ſometimes neceſſarily true, ſometimes manifeſtly falſe, and ſometimes neither plain-

ly true nor altogether falſe, the *quality* of a *propoſition* in reſpect of the *matter* about which it is made, is *threefold*.

1. *Neceſſary*, when the *predicate* doth ſo agree with the ſubject from the nature of the thing, as that it cannot poſſibly be otherways; as in this propoſition, *man is a living creature*.

2. *Impoſſible*, when the *predicate* is ſo repugnant to the nature of the *ſubject*, as that it cannot be as it is affirmed; as in this propoſition, *a man is a ſtone*.

3. *Contingent*, when the *predicate* hath ſuch an indifferent relation to the *ſubject* that naturally it doth neither agree with it, nor yet is repugnant to it; as in this propoſition, *a man is learned*.

In *neceſſary matter*, *affirmative propoſitions* are always true, *negative* falſe; as, *a man is a living creature*, is true; *a man is not a living creature*, is falſe.

In *impoſſible matter*, *affirmative propoſitions* are always falſe, *negative* true, as, *a man is a ſtone*, is falſe; *a man is not a ſtone*, is true.

In *contingent matter*, *propoſitions* whether *affirmative* or *negative*, are neither always true nor always falſe; for either of them both may be true or falſe; as, *a man is learned*; *a man is not learned*.

Thirdly

Thirdly, a *propoſition* may be divided in reſpect of its *quantity*, into an *univerſal*, *particular*, *indefinite* and *ſingular*.

An *univerſal propoſition* is that, which *hath a note of univerſality added to a common or an univerſal ſubject*; as, *every man is a living creature*.

A *particular propoſition* is that, in which *a note of particularity is added to an univerſal ſubject*; as, *ſome man is a living creature*.

An *indefinite propoſition* is that, in which *no note whether univerſal or particular is put before the univerſal ſubject*; as, *a man is learned*.

A *ſingular propoſition* is that in which *the ſubject is ſingular, whether it be a proper name*, as Socrates *is a Philoſopher*; or, *whether it be a common name with a note of ſingularity ſet before it*, as, *this man is learned*.

For the better underſtanding of that which hath been ſaid we muſt obſerve.

1. That a *note* is not a *part* of a propoſition but the ſign of quantity in ſome propoſition.

2. That ſome *notes* are univerſal; 1. *Affirmative*; as, *every one, always, whenſoever*. 2. *negative*; as, *none, no body, never*. *Some particular*; 1. *Affirmative*; as, *a certain man, ſome body, ſometimes*. 2. *negative*; as, *not every*

one. Some ſingular; as all pronouns Demonſtratives which deſign ſome certain; as, *this*, *he*, and this word *all*, when it is taken collectively not diſtributively, as, *all the fingers are five.*

3. That an *indefinite propoſition* in *neceſſary matter* is equal to *an univerſal*; in *contingent matter* it is equal to a *particular*: And the *matter* of a propoſition is then ſaid to be *neceſſary*, when the *ſubject* cannot be without the *predicate*, and then it is ſayd to be *contingent*, when the *ſubject* may be without the *predicate*; as in this *propoſition*, *a man is learned*; the *matter* is *contingent*; but in this, *a man is a living creature*, the *matter* is *neceſſary*; for he cannot be a *man* except he be a *living creature.*

According to this threefold diviſion there ariſeth a threefold queſtion concerning a *propoſition.*

What propoſition is it? To which it muſt be anſwered, *Categorical* or *Hypothetical.*

2. *Of what quality is the propoſition?* To which it muſt be anſwered, *Affirmative*, or *Negative.*

3. *Of what quantity is the propoſition?* To which it muſt be anſwered, *Univerſal*, *Particular*, *Indefinite* or *Singular.*

CHAP.

CHAP. XIX.

Of the Oppoſition of Categorical Propoſitions.

PUre *categorical propoſitions*, as they have reference to one another, have theſe *three affections*.

1. *Oppoſition*. 2. *Æquipollency*. 3. *Converſion*.

Oppoſition *is the repugnancy of two Categorical propoſitions either in quantity alone, or in quality alone, or elſe in quantity and quality, in which there is the ſame ſubject, the ſame predicate, and the ſame copula*; as in theſe, *every man is juſt: no man is juſt*.

Hence it is apparent that theſe *five* conditions are required that any *propoſition* may be ſaid to be *oppoſite*.

1. *That they be two different propoſitions*; and therefore theſe are not oppoſite, *a man is a living creature, a man is a living creature*; for theſe are not *two* but *one*, not *differing* or *repugnant*, but the *ſame*.

2. *That they be different either in quantity or in quality or in both theſe*; therefore theſe are not

not oppoſite; *ſome man is learned*; *not every man is learned*; for they *differ* only in their *words* but not in *quality* nor in *quantity*.

3. *That both propoſitions have the ſame ſubject and the ſame predicate*; therefore theſe *propoſitions* are not *oppoſite*. *A man is white*; *a man is black*; for though theſe ſimple terms *white* and *black*, are in themſelves oppoſite in *ſenſe* and *reality* of the thing; yet they are not oppoſite in reſpect of the *form* of *oppoſition*, which is required in *propoſitions*, becauſe they have not both the *ſame predicate*.

4. *That both propoſitions be* ad idem, *or to the ſame thing*; theſe *propoſitions* therefore are not *oppoſite*. *A Blackmore is white*, *viz*, in reſpect of his *teeth*. *A Blackmore is not white*, *viz*, in reſpect of his *body*.

5. *That they be oppoſite in reſpect of the ſame time*; otherways they are not *oppoſite*; as *S. Paul was at Rome*, and *S. Paul was not at Rome*. In reference to *diſtinct times* both *propoſitions* may be true.

Theſe conditions being obſerved there are *four* ways by which two *propoſitions* may be ſaid to be *oppoſite* to one another, *Contrarily*, *Subcontrarily*, *Contradictorily*, *Subalternally*.

Two *propoſitions* that are *Contrarily* and *Subcontrarily oppoſite* are *oppoſite* only in *quality*; and ſuch as are *ſubalternately oppoſite*, are

are *oppoſite* only in *quantity*. And ſuch as are *contradictorily oppoſite*, are *oppoſite* both in *quantity* and *quality*.

Oppoſition by way of *contrariety* is the repugnancy of two *univerſal propoſitions* in *quality*; as, *every man doth run, no man doth run*. And theſe in a *contingent matter* may be together both falſe, but cannot be both together true.

Oppoſition ſubcontrarily is the repugnancy of two *particular propoſitions* in *quality*; as, *ſome man doth run, ſome man doth not run*; and theſe in a *contingent matter* may be both together true, but cannot be both together falſe.

Subalternate Oppoſition is the repugnancy of 2 *affirmative* or 2 *negative propoſitions* in their *quantity*; as, *every man doth run*; *ſome man doth run*; *ſome man doth not run, no man doth run*.

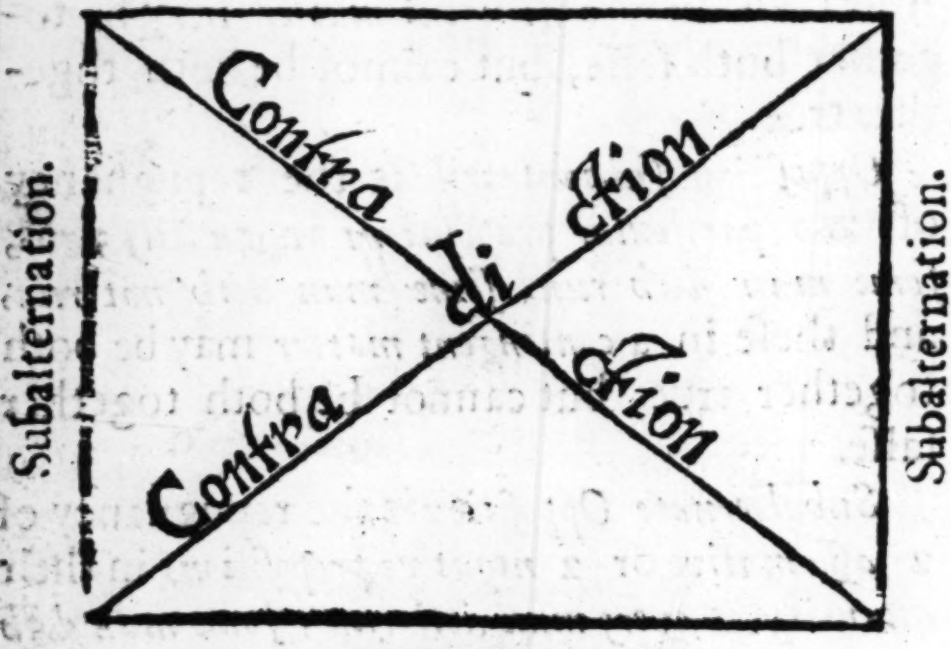
Contradictory oppoſition is the repugnancy of *two propoſitions* both in *quality* and in *quantity*; ſo as that if *one* of them be *affirmative* the *other* ſhall be *negative*; if *one* be *univerſal* the *other* ſhall be *particular*; as, *every man is learned, ſome man is not learned*.

Hence it is apparent. 1. *That every propoſition is oppoſite to ſome propoſition or other*. 2. *That every propoſition which is oppoſite to another, is oppoſite, either by way of* contrariety, ſubcontrariety,

ſubcontrariety, ſubalternation, *or* contradiction; all which may be eaſily apprehended from the following Scheam.

Every man is learned. *No man is learned.*

Contrariety



Subcontrariety.

Some man is learned. *Some man is not learned.*

And thus it hath been ſhewed what *oppoſition* is, and how many ways *one propoſition* may be *oppoſite* to *another*; come we now to the *rules* to be obſerved in ſuch *propoſitions* as are any way *oppoſite.*

1. Such *propoſitions* as are *oppoſite* by way of *contradiction*, have theſe four *Rules* or *Canons.*

1. *Contradictory*

1. *Contradictory propoſitions* are the greateſt, becauſe they are repugnant both to *quantity* and *quality*.

2. *Contradictory propoſitions* can never be both true, or both falſe, if but one be true the other muſt be falſe; as, *every man is juſt*, *ſome man is not juſt*.

3. Every *propoſition* of what *quantity* or *quality* ſoever it be, it is *oppoſite* unto one, and but to one, by way of *contradiction*.

4. In every *legitimate* diſputation, a *contradictory propoſition* is always concluded by the *Theſis* of the reſpondent.

And here obſerve that *contradictory propoſitions* are of *two* ſorts, *viz.* 1. Either ſuch as have a *common ſubject*; and ſuch are thoſe of which we have hitherto ſpoken; or, 2. ſuch as have a *ſingular ſubject*, and which are *two ſingular propoſitions*, having the *ſame ſubject* and the *ſame predicate*, but one *affirmative*, and the other *negative*: as, *Socrates is learned*, *Socrates is not learned*,

2. The *laws* of ſuch *propoſitions* as are *oppoſite* by way of *ſubalternation*, are *two*.

1. If the *univerſal* or *ſubalternating propoſition* be true, then the *particular* or *ſubalternated propoſition* is alſo true, and the contrary; as, if this be true, *every man is learned*, this is alſo true, *ſome man is learned*.

2. *If*

2. If the *particular* or *ſubalternated propoſition* be falſe, the *univerſal* or *ſubalternating propoſition* is alſo falſe, but not the contrary; as if this be falſe, *ſome man is learned*; this ſhall be alſo falſe, *every man is learned.*

3. *Propoſitions* which are *oppoſite* by way of *contrariety* have this only *rule*, that they can never be both together true, but they may be both together falſe, *viz*; in a *matter* that is *contingent*; as theſe are both falſe, *every man is learned, no man is learned.*

4. *Propoſitions* that are *oppoſite* by way of *ſubcontrariety* have one *rule*, namely this, that they may be both together true, but cannot be both together falſe; as theſe be true, *Some man is learned, Some man is not learned.*

And thus much concerning *oppoſition* or the *firſt affection* of *Categorical propoſitions.*

CHAP.

CHAP. XX.

Of the Æquipollency of Categorical Propoſitions.

ÆQuipollency *is the equivalency of two propoſitions in ſence and ſignification, though they differ in words, by vertue of this word of negatim,* [not] *being either ſet before the ſign and ſubject, after the ſign, and ſubject; or, both before and after, in which there is the ſame ſubject and the ſame predicate*; as, *ſome man is learned, not every man is learned*; whence it is apparent that to a true *equipollency* theſe conditions are required.

1. That they be two *propoſitions*.

2. That theſe two *propoſitions* have the ſame ſence, ſo as that both of them be *affirmative*, or both *negative*, both *true* or both *falſe*, and both of the ſame *quantity*.

3. That they differ in *words* though not in *ſence*.

4. That they be made *equivalent* by vertue of this word of negation, [*not*] ſo that theſe *propoſitions*, *a man is learned*, *a man is knowing*, are *materially equivalent*, viz. *equivalent* in the *ſence*, but not formally, and as we

we underſtand *æquivalency* in this place.

5. That this word of negation [*not*] be either ſet *before* the ſign and the ſubject, or *after* the ſign and the ſubject, or both *before* and *after*.

6. That both have the *ſame* ſubject and the *ſame* predicate.

Cateoorical propoſitions are as many ſeveral waies made *æquipollent* as this word of negation [*not*] may be ſeverally placed; and that is *three*; for this word of negation [*not*] may be ſet,

1. Only *before* the *ſign* and *ſubject*, and then it makes two *contradictory propoſitions* to be *æquivalent*; as, *not every man is learned, ſome man is learned*

2. Only *after* the *ſubject* and *ſign* of *quantity*, and then it makes two *contrary propoſitions* to be *æquivalent*; as, *no man is not learned, every man is learned*; this holds if the firſt be *negative*.

3. Both *before* and *after* the *ſign* and *ſubject*, and then it maketh two *ſubalternate propoſitions* to be equal; as, *not every man is not learned, ſome man is learned*; all which are fully expreſſed in theſe Diſtichs.

If *after ſign* and *ſubject* this [*not*] be,
Contraries then, make *Æquipollencie*.

If

Only *before* make *contradictories*,
But '*fore* and *aft*' are *ſubalternants* guiſe.

CHAP. XXI.

Of the Converſion of Propoſitions.

COnverſion *is an apt mutation of the whole ſubject, into the place of the whole predicate, and of the whole predicate into the place of the whole ſubject, keeping the ſame quality, but ſometimes changing the quantities*; as, *every man is a living creature, ſome living creature is a man.*

In *converſion* we are to conſider the *propoſition* to be *converted*, which is that, whoſe terms are to be tranſpoſed, and this is the firſt; as *every man is a living creature.*

Then we are to conſider the *propoſition converting*, into which the other is to be *converted*, and this is the latter; *as ſome living creature is a man.*

This *converſion* is *three-fold.*

1. *Simple*, in which the *predicate* is changed into the place of the whole ſubject, and the *contrary*, keeping the ſame both *quality* and *quantity*; as *no man is a ſtone*, therefore

no

no ſtone is a man. In this *converſion* an *univerſal negative*, is turned into an *univerſal negative*, and a *particular affirmative* into a *particular affirmative.*

2. By *accident*, in which the whole *predicate* is changed into the place of the whole *ſubject*, and the *contrary*, keeping the ſame *quality* but changing of the *quantity*; as, *every man is a living creature, therefore ſome living creature is a man.*

In this *converſion* an *univerſal affirmative* is turned into a *particular affirmative*, an *univerſal negative* into a *particular negative.*

3. By *contrapoſition*, in which the whole *ſubject* is changed into the place of the whole *predicate*, and the *contrary*, keeping both the ſame *quality* and *quantity*, but the *finite* terms are made *infinite*; as, *every man is a living creature, therefore every thing that is not a living creature, is not a man.* In this converſion an *univerſal affirmative* is turned into an *univerſal affirmative*, and a *particular negative* into a *particular negative*; but this is the moſt uſeleſs, aud indeed no *converſion*, becauſe the *terms* are changed, which in a true *converſion*, is not to be admitted.

But that this concerning the *terms* may be made more clear; we muſt obſerve, that theſe *terms* are ſaid to be. *Finite*, before which this

this word of negation [*not*] is not ſet; as, *a man*, *Infinite* before which this word of negation [*not*] is ſet; as, *not a man*, *not a ſtone*, *not learned*.

The *Rules* for *converſion* are four.

1. *If the propoſition to be converted be true, in a legimate converſion, the propoſition converting is alſo true*, and the contrary; as if this be true, *every man is a living creaure*, this is alſo true, *ſome living creature is a man*; but not on the contrary: for this is not true, *every man is learned*, and yet this is true, *ſome man is learned*.

2. *Every propoſition cannot be converted every way, but every propoſition may be converted ſome way*; this *propoſition* therefore cannot be converted by *ſimple converſion*; *every man is a living creature*; for then the *propoſition converting* ſhould be falſe: that therefore it may be known, what *propoſitions* may be *converted* this, or that way, theſe verſes are to be conſidered.

E. E. I. I. *converſion ſimple* make.
A. I. E. O. of *accident* partake,
A. A. O. O. for *Contrapoſits* ſake.

In which the four letters A. E. I. O. are thus to be underſtood. A. ſignifies *univerſal affirmative*. E. *univerſal negative*. I. *partiular affirmative*;

firmative; and O. *particular negative*: according to theſe Diſtichs.

A. affirms, E. denies, both *univerſal* are,
I. affirms, O. denies, but both *particular*.

The firſt verſes ſhew, that E. is to be *converted* into E. and I. into I. by *ſimple converſion*; that an *univerſal negative* into an *univerſal negative* &c. ſo likewiſe A. into I. and E. into O. to be *converted* by *accident* and laſtly A. into A. and O. into O. by *contraposition*.

3. *That the whole predicate be changed into the place of the whole ſubject*, and the contrary.

4. *That we beware, that imperfect terms be not taken for ſuch as are intire.* This *propoſition* therefore; *a certain tree is in the field*, is not thus *converted*, *therefore a certain field is in the tree*; but thus, *therefore a certain thing in the field is a tree. Some man doth ſee one that is blind*, is not thus to be *converted*, *therefore ſome one that is blind doth ſee a man*, but thus, *therefore ſome thing ſeeing one that is blind is a man. Every old man was a boy*, is not thus to be *converted*, *therefore a certain boy was an old man*, but thus

thus, *therefore a certain perſon which was a boy is an old man.*

And thus much concerning the *affections of pure Categorical propoſitions.*

CHAP. XXII.

Of Modal Propoſitions.

HItherto we have ſpoken of ſuch *Categorical propoſitions*, as are *pure*, and without *modes*; it remaineth now that we ſpeak ſomething of ſuch *categorical propoſitions* as are called *modal*, the which are thus defined.

A modal propoſition is (as we defined it above) *that in which, beſides the ſubject, predicate and Copula, we add ſome modification to ſhew how the predicate is in the ſubject*; as in this *propoſition: it is impoſſible that a man ſhould be without reaſon.*

The diviſion of *modal propoſitions* is taken from the diverſity of the *modes*, which reſpect either the *matter* or the *form* of the *propoſition.*

Such *modes* which reſpect the *matter*, that is, the *ſubject* and the *predicate* without connexion

nexion, are *twofold*,

1. Such in which the *mode* affects the *ſubject* only, as he which doth *eaſily* learn is *ingenious*; where *facility* is the qualification of the learner.

2. Such in which the *mode* affects the *predicate* only, which doth more frequently happen.

And this is *twofold*,

1. That which reſpects the *time* ſignified; as, *Peter was here a long while.*

2. That which reſpects the *thing* ſignified; as, a *horſe runneth ſwiftly*, of which ſort are theſe, *it is a holy thing*, *it is eight*, *it is ſweet*, &c. which if they be reſolved into nouns, do make the *predicate* it ſelf; as, *to worſhip God is a holy thing*, that is, *to worſhip God is piety*; and in this manner the reſt may be reſolved.

Secondly, other *modes* reſpect the *form* or the connexion of the *terms*, to which eſpecially the definitionof a *modal propoſition* doth agree, and is *two-fold.*

1. *Principal*, in which the *moods* are affected with ſome *primary* manner, ſuch as are theſe four.

1. *Neceſſary*, and is defined to be that, which *is and cannot be otherwiſe*; as, *a man muſt needs be a living creature*; and hath the force

force of an *universal affirmative.*

2. *Contingent*, and is defined to be that which *is and may be otherwise*, or *may not be*, as, *perchance it may rain to morrow*; and hath the force of a *particular affirmative.*

3. *Impossible*, which is defined to be that which *neither is*, *nor can be*, as it is *impossible* that a *man* should be a *beast*; and hath the force of an *universal negative.*

4. *Possible*, which is defined to be that which *is not*, *but may be*; as it is *possible* that *roses may flourish again*, and hath the force of a *particular negative.*

2. *Less principal*, in which the *modes* are affected in a *secundary manner*, and may be reduced to the four first.

1. *Probable*, and may be reduced unto *Contingent.*

2. *True*, and is referred to *necessary.*

3. *Easie*, and is contained under *possible.*

4. *Difficult*, and is included in *impossible.*

That this may be the better conceived, five things must be considered.

1. That the *modification* of a *proposition* doth consist in two things.

1. The *saying*, which is the *whole Categorical proposition*, which supplies the place of the *subject* only; as, *it is possible that water may be warm.*

2. The manner, which ſupplies the place of the *prædicate*, in what part of the *propopoſition* ſoever it be ſet.

2. In every *modal propoſition* the *manner* of the *modification* is the *moſt principal*, and doth the office of the *copula*.

3. No other *modes* or *manners* but the *formal* are in *Logick* to be regarded; that is, ſuch as reſpect the connexion of the *terms*.

4. The four *modes* reſpect the four *differences* that are in things.

Now things may be ſaid,

1. *Always to be*; with which agreeth this, *neceſſary to be*.

2. *Never to be*; with which agreeth this, *it is impoſſible to be*; and this, *never to be actually*, as, *an Infinite number*; or, *never to be either actually or potentially*, as, *an irrational man*.

3. *Sometimes not to be, but alſo may be*; and with theſe agreeth this, *it is poſſible to be*.

4. *Sometimes to be, but alſo may not be*; and with theſe agreeth this, *it is contingent*.

5. That the four *modes* may be diſtinguiſhed, two things are required.

1. That they reſpect the *ſame time*, otherwiſe the *ſame thing* may be both *poſſible* and *impoſſible*; as, It is *impoſſible* for one that *ſitteth* to *run* [that is *while* he *ſitteth*]; but if it be referred unto *another time*, it is *poſſible*.

2. That

2. That they be referred to the *ſame ſubject*; as, *whilſt I ſee* Socrates *running*, Socrates *of neceſſity muſt run*. But if it be referred to the *liberty* of *Socrates*, then it is *contingent*, for he *may* and he *may not run*.

The *quantity* of *modal propoſitions* as it hath reference unto the [*dictum*] or [*ſaying*] is altogether the ſame with *pure Categorical*, and is the *material quantity*; but as it hath reference to the *mode*, that is *univerſal* which hath an *univerſal mode*, as *neceſſary* or *Impoſſible*.

That is *particular*, which hath a *particular mode*, as *poſſible* or *contingent*, and this is the *formal quantity*; as, *it is impoſſible that any man ſhould be a ſtone*; the which is *particular* in reference to the [*dictum*] or [*ſaying*], and *univerſal* in reſpect of the *mode*.

In like manner the *quality* of *modal propoſitions*, as it hath reference to the *ſaying*, is the ſame with *pure Categorical*; and as it hath reference to the *mode*, that *affirmeth* which hath an *affirmative mode*, viz. *neceſſary* or *contingent*; and that *denies*, which hath a *negative mode*, viz. *poſſible* or *impoſſible*. But if reſpect be had to the *whole modal propoſition*, that is *negative* in which the *mode* is *formally denyed*, and that *affirmative* in which 'tis *not denyed*; as this, *It is impoſſible that a*

man should not be a living creature, is *negative* in respect of the *saying*, and *negative* in respect of the *mode*, but in respect of the *whole proposition* it is *affirmative*.

Every *true modal proposition* is *necessary*, every *false*, *impossible*; and between these there is no mean.

In the *necessary mode*, that *proposition* is *true*, whose *matter* is *necessary*; *false*, whose *matter* is *impossible*, or *contingent*.

In the *impossible mode* that *proposition* is *true*, whose *matter* is *impossible*, and that is *false*, whose *matter* is *necessary* or *contingent*.

In the *contingent mode*, that *proposition* is *true*, whose *matter* is *contingent*, and that is *false*, whose *matter* is *necessary or impossible*.

In the *possible mode* that *proposition* is *true*, whose *matter* is *necessary* or *contingent*, and that is *false*, whose *matter* is *impossible*,

The *Opposition* and *Æquipollency* of *modal propositions*, *Logicians* have expressed by these fictitious words, *Purpurea*, *Iliace*, *Amabimus*, *Edentuli*; The four *syllables* of every of these words do signifie the four *modes*, the *first syllable* in every word doth signifie the *possible mode*; the *second syllable*, the *contingent mode*; the *third syllable* the *Impossible mode*, and the *fourth syllable* the *necessary mode*.

As for the four *vowels* which are in these words

words, A. notes that the *dictum* and the *mode* are both affirmative V. notes that they are both *negative*; E. notes that the *mode* is *affirmative* and the *dictum negative*; I. noteth that the *mode* is *negative*, and the *dictum* or *saying affirmative*, according to these verses.

V, *both* denies. *A*, *both* affirms: *but I*,
Destroys the mode; E, dictum *doth* deny.

Which being premised the whole matter may be easily understood by the following Scheam.

Pur	*not possible not.*	*not possible.*	I
Pu	*not contingent not.*	*not contingent*	li
re	*impossible not.*	*impossible.*	a
a	*necessary.*	*necessary not.*	ce.
A	*possible.*	*possible not.*	E
ma	*contingent.*	*contingent not.*	den
di	*not impossible.*	*not impossible not.*	tu
mus	*not necessary not.*	*not necessary.*	li

In which scheam those are *æquipollent*, which are contained in any one word, but those at the bottom, top sides and opposite Angles, are in the same manner *opposed*, as hath been shewed concerning the *opposition* of *pure Categorical propositions*; therefore, *Purpurei*, and *Iliace*, are *contraries*; *Amabimus*, and *Edentuli* are *subcontraries*. *Purpurea* and *Edentuli* are *contradictories*; and so are *Iliace*

and *Amabimus*; *Purpurea* and *Amabimus* are *ſubalterns*, and ſo are *Iliace* and *Edentuli*.

As for the *converſion* of *modal propoſitions* I willingly paſs them by, as being unwilling to give my Reader the trouble of that, which will not requite his pains.

To theſe *modal propoſitions* thoſe may be reduced, which are called *excluſive*, *exceptive*, and *reduplicative*,

An *excluſive propoſition* is that in which *an excluſive particle is found*, as, *only*, *alone*, and the like; as, *man only is rational*.

And it is *excluſive* either of the *predicate* or the *ſubject*. *Excluſive of the predicate* is that, which *by a ſign of excluſion put between the ſubject and the predicate doth exclude other predicates from the ſame ſubject*; as, the *Eliments are only four*; and this is called *a propoſition excluding the extream*.

Excluſive of the ſubject is that, which *with an excluſive particle ſet before it, excludes or ſhuts out other ſubjects from participation with the ſame predicate*; as, *only man is rational: and* this is abſolutely called *an excluſive propoſition*.

A *Propoſition excluding the extream* is expounded by *taking away the ſign and removing from the predicate any other number or thing*, as the caſe ſhall require; as this, *the elements are only four*, is thus expounded, *the elments are four and no more*.

A

A *propoſition excluſive of the ſubject*, though it may be otherwiſe expounded, yet is it more ſimply done by the *univerſal affirmative* of the tranſpoſed terms; as this, *a man only is rational*, is thus expounded, *every thing that is rational is a man*, and ſo of the reſt, *mutatis mutandis*.

An *Exceptive propoſition* is that in which *there is an exceptive particle*; as, *except*, *beſides*, *unleſs*, *and ſuch like*; as, *every living creature beſides a man is irrational*.

In every legitimate exception, the term *excepting* muſt be of a larger comprehenſion than the term *excepted*, that it may be diſtributed.

This is expounded by two exponents, the *firſt* of which ought to be of the *ſame quantity and quality, with the exceptive in the ſubject of the excluded term*; and the *other* of *divers quantity* and *quality*, in which the *ſubject* is the *excepted term*, and the *predicate* the ſame with the *exceptive*; as, *every living creature beſides a man is irrational*, is expounded by theſe, *every living creature, which is another from a man is irrational*; And, *ſome man is not irrational*, and thus may any other be expounded.

A *Reduplicative propoſition* is that, in which there is found ſome *reduplicative particle*; as, *according to*, *in reſpect of*, *as far forth as*, and

ſuch like; as, *man is rational*, and this is called, a *Reſtrictive* or *a limitative propoſition*.

Reduplication is *twofold*.

1. *Uniform*, which is alſo called *ſimple* or *ſpecifical*, when the *reduplication* is by the *ſame* name; as, in this, *man as man is rational*: and this *reduplication* is not uſed, but in an *eſſential predication*, where the *predicate* ſo agreeth with the *ſubject*, as if it were the very *ſubject* it ſelf.

2. *Not uniform*, or *compounded*, when the *reduplication* is made by *divers* names, whether it be of the *Genus*, and ſo is called *Generical*; as in this, *a man, as he is a living creature, is ſenſible*; or of the *part*, and is called *partial* or *Synechdochical*, as in this, *a man in reſpect of his ſoul is immortal*; or of the *Accident*, and is called *Accidental*; as, Socrates, *as he is a Philoſopher, doth diſpute*.

A reduplicative propoſition is expounded by four *exponents*; the *firſt* of which *exponents*, doth attribute the *principal predicate* to the *ſubject*. The *Second* doth attribute the *reduplicative predicate* to the *ſubject*. The *third* doth attribute the *principal predicate* to the *ſubject*, by way of *univerſality*. *The fourth* is a *cauſal inferring the principal predicate* from the *reduplicative*; as this, *a man, as he is a living creature, is ſenſible*, may be expounded

pounded by these several *exponcnts* thus.

1. *A man is sensible*; and *a man is a living creature*, and, *every living creature is sensible*. And, because *something is a living creature*, that *something is sensible*. In like manner may all other *reduplicative propositions* be expounded, whether *negative* or *affirmative*.

But the whole matter may be more readily done, and no less commodiously, if it be expounded by a *simple exposition* by the help of one *causal* only; thus the former proposition, *a man as he is a living creature*, may be thus expounded; *because a man is a living creature, therefore he is sensible*.

CHAP. XXIII.

Of Hypothetical propositions.

HItherto we have spoken of *Categorical propositions*, come we now to *Hypothetical*.

An *Hypothetical proposition* is that, which *doth consist of two Categorical propositions joyned together by some conjunction*; as, *man is a living creature*; and, *a man is learned*.

Hypothetical propositions are of three sorts, *con-*

ditional, *Copulative*, and *Diſjunctive*.

1. *A conditional* or *Hypothetical propoſitio* ſtrictly taken, in which *ſeveral categorical pro poſitions* are joyned *together* by a *conjunctio conditional*; as, *if it be day*, *then the Sun dot ſhine*; to this may that which is called *a cauſal propoſition*, be reduced; ſuch as i this, *becauſe the Sun doth ſhine it is day*; an alſo this, *the Sun doth ſhine*, *therefore it is day* and note that the *firſt Categorical propoſition* i called the *antecedent*, and the *ſecond* is calle the *conſequent*, becauſe it followeth from th former.

2. *Copulative*, in which *ſeveral Categorica propoſitions* are joyned *together* by a *Conjunctio on copulative*; as, *a man is rational*, and, *a beaſt is irrational*. To theſe, thoſe *propoſitio ons* are referred, which are called *adverſative*; as, Socrates, *though he is not an Orator*, *yet he is a Philoſopher*; and *comparative*; as, So crates *is as learned as* Plato; and *ſignifica tive of Place*, as, *where* Socrates *doth read*, Plato *doth diſpute*; and *ſignificative of time*; as, *while* Socrates *doth read*, Plato *doth diſpute*.

3. *Diſjunctive*, in which *ſeveral propoſitions Categorical* are joyned *together* by a *conjunctio on diſjunctive*; as, *either it is day*, *or it is night*.

A conditional propoſition is,

1. True

1. *True*, when the *Antecedent* doth prove he *consequent*; as, if it be granted, that *it day*, it followeth, that *the sun doth shine*; erefore the *antecedent* being granted, the *nsequent* must of necessity be granted also.

2. *False*, when the *antecedent* doth *not* rove the *consequent*; but the *antecedent* being granted, the *consequent* doth not necessarily follow; as, granting that *a man* is a *living creature*, it doth not follow, that he is *arned*: this *conditional proposition* is therefore *alse*, *if a man be a living creature, then he is earned.*

A *Copulative proposition* is,

1. *True*, when both parts thereof are *true*: as this is true, a *man is a living creature*, and *a man is rational*, for both the parts thereof are *true*.

2. *False*, when either *one* or *both* the parts are *false*; as this is *false*, *a man is a living creature, and irrational*, for the *latter* part is *false*, namely this, *a man is irrational*.

A *disunctive proposition* is,

1. *True*, when *one* or *both* of the parts are *true*, as this is *true*, *either it is day, or it is night*; for *one* of the parts is *true*, though the *other* be *false*.

2. *False*, when *both* parts are *false*; as this is *false*, *A man is either a tree or a stone*, for *neither* of them is *true*.

Hypothetica

Hypothetical propositions have not proper either *quantity* or *quality*, but what they ha from their *Categoricals*; neither have th such *oppositions* and *Æquipollencies* which *Ca gorical propositions* have: they are capable b of *one* only kind of *opposition*, and that is *Co tradictory*; and this is made by putting th *particle* of *negation*, in the first part of the *Hy pothetical proposition*; and therefore this, Socrates *doth run*, *he is a living creature*, *contradictory* unto this, *if* Socrates *doth not run he is a living creature*. And thus it is also both in *Copulative*, and in *disjunctive propositions*.

The

The Second Book OF THE *ART of LOGICK.*

CHAP. I.

Of Definition.

HAving done with the *first* part of Logick, namely that which treateth of *Theams both simple and compound*, with their various *affections*: come we now to the *second* called the *Organical*, or that which treateth of *Logical instruments*, and their *composition*.

2. *Logical Instruments* are these four; *Definition*,

Definition, Diviſion, Syllogiſm and *Method.*

3. Definition *is the explication of the thing which is defined*; and this is either *nominal* or *real.*

4. A Nominal Definition *is that which ſheweth the ſignification of the name*; whether it be by giving the *Etymology* thereof; or by expreſſing it by ſome other *Synonymous* word more generally known.

5. A real Definition *is that which ſheweth what the thing is*: and this is twofold, *perfect imperfect.*

6. A real & a perfect Definition *is that which doth explain the thing by eſſential attributes*; whether they be ſuch as *conſtitute* the thing; and then it is a *Definition* of the *ſubſtantial form*, which doth moſt exactly explain the nature of its *ſpecies*; as, *a man is a rational living creature*: Or ſuch as do partly *conſtitute* the thing, and partly *produce* the ſame *neceſſarily*; and then it is a *Definition* of the *accidents*, and this is threefold.

1. *Formal*, which conſiſts of the *Genus*, and the *ſubject* of the *accident*; for the *ſubject* of the *accident* is as it were the *form*; as, *Thunder is a noiſe in the clouds.*

2. *Cauſal*, which doth *demonſtrate the nature* of the thing defined, and it is the *next cauſe* of the *accident*, either *efficient* or *final.*

3. Both

3. Both *formal* and *cauſal*, which ſheweth the *Genus*, *ſubject*, and *cauſe* of the thing defined; as if an *Eclipſe* of the *Moon* be thus defined, *it is a privation of light in the Moon, by the interpoſition of the earth.* The *Genus is privation*, the *difference* or *form* is the *ſubject, viz.* the *Moon*; and the *efficient* cauſe is the *interpoſition of the earth.*

7. A *real* but *imperfect definition*, otherwiſe called a *deſcription*, is that, which *explains* the nature of the thing, by certain *accidental attributes*; it doth conſiſt of a *Genus* or ſomething which doth ſupply the place of a *Genus*, and of *proper* and *common accidents*, which ſupply the place of the *difference*; as, *a man is a living creature* that is *riſible*, hath *two feet.*

And becauſe our knowledge begins from the *accidents*, therefore this kind of deſcription is moſt in uſe with all.

The *Canons* or *Rules* are;

1. *In every ſcience, you are to begin with the definition of the name thereof.*

2. *A deſcription may be ſutable as well to the ſubſtantial, as the accidental part of any thing.*

3. *A Species only is defined by a formal definition.*

4. *An accident only is defined by a cauſal*

ſal definition, or by a formal and a cauſal both.

5. *A definition conſiſting of the form and cauſe both, doth differ from a Demonſtration in the diſpoſition of the terms only.*

6. *Every deſcriptive definition, whether formal, or formal and cauſal both, is an oration.*

CHAP. II.

Of Diviſion.

DIviſion *is the reſolving of the whole into parts.*

And this is either of ſome ambiguous word into its ſeveral ſignifications: or of the whole into its parts.

2. Now the *whole*, is either *ſimple* or *aggregate.*

3. *Diviſion* of the *whole*, *ſimply* and *properly* ſo called, is threefold.

1. *Univerſal into its ſubjective parts*, or of the *General* into the *ſpecials*; as to divide *animal* into *man* and *beaſt*.

2. *Eſſential*, which reſolves the *whole* into *eſſential parts*, and this is either of a *ſpecies* into

into its *Genus* and *difference*, or of some *ſpecifical nature* into its *matter* and *form*; as, a *man* into *ſoul* and *body*.

3. *Integral*, which reſolveth the *whole* into *integral parts*, and this is the diviſion of ſome *individual*, either into its *ſenſible* or *material* parts.

4. *Diviſion* of the *aggregated whole* into its *parts*, and by *accident* is four fold.

1. When the *ſubject* may be divided by its *accidents*; as, *men* are *learned* or *unlearned*.

2. When an *accident* may be divided By its *ſubjects*; as, *Feavers* are in the *ſpirits*, or in the *humours*, or in the *ſolid parts*.

3. When an *accident* may be divided by *accidents*; as, *good* is either *profitable*, *honeſt* or *pleaſant*.

5. When things may be divided by their *objects*; as, *ſight* by *colours*, *hearing* by *ſound*.

6 When *cauſes* may be divided by their *effects*, and the contrary; as, *Heavenly heat* is from the *Sun*, and *Elementary* from *fire*.

The *Canons* or *Rules* are theſe.

1. *An ambiguous word muſt be explained before it can define any thing.*

2. *Unleſs the ambiguity be explained in the beginning*

beginning, the error will be afterward the grea-
er.

3. *In the ſimple dividing of the whole, t*
members dividing ſhould be equal to, and agr
with the whole.

4. *The members dividing ſhould be disjoine*
from one another.

5. *Diviſion doth conſiſt of as few members*
or parts as the nature of the whole will bea

6. *In any Diviſion the whole muſt be of a lar-*
ger extent than any one of the parts.

CHAP. III.

Of a Syllogiſm.

A Syllogiſm *is an oration in which ſome things being taken for granted, ſomething elſe not granted before is proved or inferred from them:* and this is twofold, *perfect* or *imperfect.*

2. A perfect Syllogiſm *is an argumentation, in which from two premiſes diſpoſed rightly, and according to rule, ſome concluſion doth neceſſarily follow;* as, *every man is an animal, every thing that hath reaſon is a man, therefore every rational thing is an animal.*

3. A

3. A *perfect Syllogiſm* is twofold, *Categori-*
l and *Hypothetical*.

4. A Categorical Syllogiſm *is that in*
hich all the propoſitions are categorical; and
is is alſo twofold, *Common* and *Expoſito-*
.

5. A common categorical Syllogiſm *is*
t in which the Medium is a common name;
every ſound may be heard, every voice is a
und, therefore *every voice may be heard*.

6. An Expoſitory Categorical Syllogiſm
that in which the Medium is a ſingular
me; as, Sorates *is learned*, Socrates *is an*
thenian, therefore ſome Athenian is learn-
.

7. An Hypothetical Syllogiſm *is that in*
hich one or more of the propoſitions are Hypo-
etical; as, *if* Socrates *be a man, he is an a-*
mal; *but* Socrates *is a man, therefore he*
an animal.

8. To make a *common Categorical Syllo-*
ſm two things are required, *matter* and
rm.

9. The *matter* of a *Syllogiſm* is either *re-*
ote or *next*.

10. The *remote matter* of a *Syllogiſm* is
hat matter of which it is *remotely* made,
s the three *terms* in every propoſition, call-
d the *major extreme*, the *minor extreme*, and
the

the *middle term* or *argument*.

11. The *major extreme*, is that which is the *major propoſition*, and in the *concluſi* but never in the *minor*.

12. The *minor extreme*, is that which in the *minor propoſition*, and in the *concluſi* but never in the *major*.

13. The *middle term* or *argument*, is th which is in the *major* and *minor* propoſi ons, but never in the *concluſion*.

14. The *next* or *immediate matter* of *Syllogiſm*, is that of which the *Syllogiſm* *immediately* made; as, the *three* propoſi ons, of which the *firſt* is called the *m jor*, the *ſecond* the *minor*, and the *third* t *concluſion*.

15. The *form* of a *Syllogiſm*, is the rig diſpoſing of the matter both *next* and *mote*; and this comprehendeth two thin *figure* and *mode*.

16. A *figure* is that which ſhews ho the *middle term* may be fitly placed; whi may be done *three* waies, or by *three* *gures*.

17. The *firſt figure* maketh that which the *ſubject* in the *major* propoſition to the *predicate* in the *minor*.

18. The *Second figure* maketh that whi is the *predicate* in the *major propoſition*

the *predicate* in the *minor* alſo.

19. The *third figure* maketh that which the *ſubject* in the *major* propoſition to be *ſubject* in the *minor* alſo, according to ſe diſticks.

Both *ſub* and *præ* doth the *firſt figure* uſe,
Twice præ the *next*, the *third* twice *ſub* I muſe.

20. A Mood *is the diſpoſing of the propoſiti- according to quantity and quality.*

21. There are nineteen *Moods*, of which me are *perfect*, ſome *imperfect*. In the *firſt re* there are nine, *Barbara*, *Celarent*, *Da- Ferio*; and theſe *four* are *perfect*: *Bara- on*, *Celantes*, *Dabitis*, *Fapeſmo*, *Friceſmo- m*; and theſe *five* are *imperfect*. In the *ſe- d figure* there are *four Moods*, *Ceſare*, *Ca- ſtres*, *Feſtino*, *Baroco*; and in the *third fi- e* there are theſe *ſix*, *Darapti*, *Felapton*, *ſamis*, *Datiſi*, *Bocardo*, *Feriſon*: the *Moods* both theſe *figures* are all *perfect*, and are many words of art, which ſerve only to note the *quality* and *quantity* of every pro- ſition, by help of the *vowels* which are in em; A. E. I. and O. And how the *quanti-* and *quality* of a propoſition may be known theſe *vowels* hath been ſhewed before.

22. And theſe directions are ſufficient for e placing of the *middle terms*, and the right

right disposing of the two *first* propositio in a *Syllogism* called the *premisses*; the *thi* proposition or *conclusion* may be inferred fro them by help of these *moods* two ways, to w *directly* or *indirectly*.

1. *Directly*, when the *minor extream* *term* is the *subject* in the *conclusion*; and th *major term* the *predicate*: and thus the *concl* *sion* is inferred in *four moods* of the *first figu* and in all the *moods* of the *second* and th *third figures*.

2. *Indirectly*, when the *Major extream* the *subject* in the *conclusion*, and the *Minor* th *predicate*; and this is in the *five last modes* the *first figure* only, according to these ver es.

All the *nineteen* directly do conclude,
Except of *figure first*, the *last five moods*.

The *Canons* or *Rules* concerning the *matt* and *form* of a *common Syllogism*.

1. *From true premisses rightly disposed a tr conclusion is rightly inferred.*

2. *A Syllogism consisting of pure negatives, pure particulars in the premisses, no univers can be rightly inferred.*

3. *The conclusion is always inferred from t more unworthy or weaker parts: and an affi* *mati*

ative is always more worthy than a negative,
d an universal than a particular.

4. *In every Syllogism there must be three terms*
d no more; and *four terms* may be either ex-
essed or *implyed* in using a *doubtful* word;
r every *doubtful* word is a *double* word.

5. *Every Syllogism either is in the first figure,*
may be reduced thereto.

Examples of the *universal moods*, in which
e *conclusion* is directly inferred in the *first*
ure.

ar *Every animal is sensible.*
a *Every man is an animal,*
Therefore every man is sensible.

e *No animal is a stone,*
Every man is an animal,
ent *Therefore no man is a stone.*

a *Every colour is visible,*
Some quality is a colour,
Therefore some quality is visible.

e *No vice is placed in the middle,*
i *Some habit is a vice,*
Therefore some habit is not placed in the middle.

Examples

Examples in the *ſecond figure.*

Ce *No rich man is poor,*
ſa *Every covetous man is poor,*
re *Therefore no covetous man is rich.*

Ca *Every animal is mortal,*
meſ *No Angel is mortal,*
tres *Therefore no Angel is an animal.*

Feſ *No animal is a plant,*
ti *Something that hath life is a plant,*
no *Therefore ſomething that hath life is n*
an animal.

Ba *Every man is an Animal,*
ro *Something that hath life is not an ani*
mal,
co *Therefore ſomething, that hath life i*
not a man.

Examples in the *third figure.*

Da *Every vertue is difficult,*
rap *Every vertue is honeſt,*
ti *Therefore ſomething, that is honeſt, i*
difficult.

Fe *No ſtone doth live,*

la

ap *Every ſtone doth naturally deſcend,*
on *Therefore ſomething which doth naturally deſcend, doth not live.*

Di *Some man is a thief,*
a *Every man is a rational creature,*
nis *Therefore ſome rational creature is a thief.*

Da *Every man is a living creature,*
i *Some man is wiſe,*
Therefore ſome body that is wiſe is a living creature.

So *Some Animal is not rational,*
ar *Every animal is mortal,*
o *Therefore ſome mortal is not rational.*

e *No ſeverity is pleaſing,*
i *Some ſeverity is good,*
on *Therefore, ſomething that is good, is not pleaſing.*

CHAP. IV.

Of the Reduction of Syllogiſms.

SOme *Syllogiſms* which do naturally and evidently conclude are *perfect* and need no *Reduction*, ſuch are thoſe that are made according to the *four firſt moods* of the *firſt figure*, but all the reſt are *imperfect*, and are to be reduced to theſe *four*; and the *third* propoſition or *concluſion* in theſe *Syllogiſms* formed according to theſe *four moods*, doth depend upon *two rules*; the *one* is called *Dictum de omni, ſpoken of all*; the *other Dictum de nullo, ſpoken of none.*

2. A thing is then ſaid to be *ſpoken of all* when that which is univerſally affirmed of the *predicate* is alſo affirmed of all his *ſubjecti* and upon this *rule* are theſe *two moods*, *Barbara* and *Darii*, founded.

3. A thing is then ſaid to be *ſpoken of none* when that which is univerſally denyed of the *predicate* is alſo denyed of all the *ſubjecti* and upon this *rule* are theſe *two moods*, *Celarent* and *Ferio* founded. Hence it appears why all the other *moods* are to be reduced to theſe *four*, becauſe the *concluſion* is ſ naturall

aturally inferred in them, and becauſe they re founded upon theſe *rules*.

4. And, *Reduction is the declaration, or manifeſtation, how the concluſion in any imperfect mood, is inferred from the premiſſes by reduction to ſome perfect mood, or ſome other part of the contradiction.*

5. *Reduction* is twofold, *Direct* or *Indirect*.

1. *Direct reduction* is, when ſome *Syllogiſm* of the *ſecond* or *third figure* is reduced to ſome *Syllogiſm* of the *firſt*, by *converting* one or both of the premiſſes, or by *tranſpoſing* them, or by *converſion* and *tranſpoſition* both.

2. *Indirect reduction* is, when we compel the adverſary to *confeſs* ſome *abſurd* or *Impoſſible* thing.

6. The manner how both theſe kinds of *Reduction* muſt be performed, will be eaſily underſtood by conſidering the *Conſonants* in the *beginning* and *middle* of thoſe *Moods*, which are to be *reduced* to the *moods* of the *firſt figure*.

7. The *Conſonants* in the *beginning* of the *Moods* are theſe four, B. C. D. F. and ſhew unto which *mood* of the *firſt figure*, every *mood* of the *ſecond* and *third figures* is to be *reduced*, namely to that, which doth begin with the ſame letter: all the imperfect *Moods*

therefore which begin with B, muſt be re
duced to *Barbara*; thoſe which begin with C
to *Celarent*, Thoſe with D, to *Darii*, and thoſe
with F, to *Ferio*.

8. The *conſonants* to be obſerved in the
middle of the *Moods* are theſe *four*. S. P. M.
C. and ſhew by what *inſtrument* the *reduction*
is to be made, whether by *Converſion*, *Tranſ-
poſition*, or *Deduction* to ſome abſurd or im-
poſſible thing. S, ſheweth that that propo-
ſition in which it is found muſt be *converted*
by *ſimple converſion*. P, noteth that the pro-
poſition muſt be *converted* by *accident*. M
noteth that the premiſſes muſt be *tranſpoſed*,
that is, the *Minor* into the place of the *Ma-
jor*, and the *Major into* the place of the *Mi-
nor*. C, noteth that the *Reduction* muſt be
made by ſome abſurd or impoſſible thing.

According to theſe diſticks,

The letter S, *Simple converſion* notes,
But P, for *Accident* doth ſpend its votes.
The letter M, doth *Tranſpoſition* uſe,
C, notes that you th' *apponent* muſt abuſe.

9. *Indirect reduction*, or *reduction* by bringing
the adverſary to ſome abſurdity hath place
only in theſe two *Moods*, *Baroco* of the *ſecond
figure*, and *Bocardo* of the *third*; and to re-

uce these *two moods*, two things must be bserved.

1. If *Baroco* be to be *reduced*, the *Minor* ropolition must be contradictory to the *onclusion*: if *Bocardo*, the *Major* propolition nust be contradictory to the *Conclusion*.

2. If *Baroco* be to be *reduced*, the *Major* hall still be the same; but if *Bocardo* the *Minor*: according to these distichs.

The *Major* keep *Baroco* to reduce,
And keep the *Minor* for *Bocardo's* use.

CHAP. V.

Of an imperfect Syllogism.

AN imperfect Syllogism *is a Syllogism that hath some defect, either in the number of the premisses, in the disposing them, or in the inference from them*; and is fourfold; 1. *Enthymem.* 2. *Induction.* 3. *Example.* 4. *Sorites.*

1. An Enthymem *is an imperfect Syllogism, inferring the conclusion from some one proposition only*; as, *a man is a living creature, therefore he hath a soul.*

In which theſe *three* things are to be ob-
ſerved.

1. In an *Enthymem* the *firſt* propoſition is
called the *Antecedent*, the *other* the *Conſequent*.

2. If the *Predicate* be in the *Antecedent* and
concluſion, the *Minor* is wanting; If the
ſubject be in the *antecedent* and *concluſion* the
Major is wanting.

3. An *Enthymem* is a perfect *Syllogiſm* in
reſpect of the *firm proof*, and *imperfect* in reſpect
of the *evidence* of the *concluſion*, one of the
premiſſes being underſtood, but not expreſ-
ſed.

2. An induction *is an imperfect Syllogiſm
in which from many ſingulars ſome univerſal
concluſion is inferred*; as, *this man is a living
creature, and that man is a living creature*,
and ſo of the reſt, *therefore every man is a liv-
ing creature.*

In an *Induction*, *four* things are to be ob-
ſerved.

1. By *ſingulars* we are not only to under-
ſtand *Individuals*, but *leſs univerſals*, *Specials*
in reſpect of *Generals*, and all *integral parts*
in reſpect of the *whole*.

2. If the enumeration of all the ſingulars
be not full, the *concluſion* will be falſe.

3. *Induction* is the moſt convenient inſtru-
ment to find out *arts*.

4. An

4. An *induction* may be reduced to an *Hypothetical Syllogiſm. If* Peter *be rational, If* Socrates,&c. *then every man is rational; but* Peter & Socrates, &c. *are rational, therefore.* &c.

3. Example *is an imperfect Syllogiſm, in which from one or more ſingulars, we infer another particular*; as, Catiline *was puniſhed for making ſedition, therefore this ſeditious fellow ſhould be puniſhed.*

In an *Examplary Syllogiſm, four* things are to be obſerved.

1. An *Examplary Syllogiſm* is an *imperfect induction.*

2. In every *Examplary Syllogiſm* there are *four* terms, and therefore cannot be immediately reduced to a *perfect Syllogiſm.*

3. An *Examplary Syllogiſm* is but of little force to *prove* a thing, but of great force to *perſwade.*

4. In an *examplary Syllogiſm* this general rule is much obſerved in the inference; that, *like doth agree with like.*

4. Sorites *is an imperfect Syllogiſm, in which, from four or more premiſſes, we infer a concluſion, in which the firſt ſubject is joyned with the laſt predicate*; as, Socrates *is a man, a man is a living creature, a living creature is a body, a body is a ſubſtance, therefore* Socrates *is a ſubſtance.*

And in this kind of *Syllogiſm*, *three* things are to be obſerved.

1. A *Sorites* conteineth as many *Syllogiſms*, as there are *terms* between the *ſubject* of the *firſt* propoſition and the *predicate* of the *laſt*.

2. A *Sorites* may be reſolved into *Syllogiſms* of the *firſt figure*.

3. A *Sorites* is in uſe only, in ſuch *terms* as are neceſſarily ſubordinate, in a *cauſal* or a *predicamental ſubordination*. This way of arguing, is grounded upon the *firſt Antepredicamental rule*.

And thus much concerning a *Syllogiſm* in the General, and the ſeveral kinds, or *forms* thereof.

CHAP.

CHAP. VI.

Of the first Definition and Præcognita of Demonstration.

I Come now to speak of a *special* or *Material Syllogism*, as it is restrained to certain conditions of matter.

2. A *Special* or *Material Syllogism*, is of three sorts; *Apodictical*, *Dialectical*, and *Sophistical*.

3. An *Apodictical Syllogism* otherwise called a *Demonstration*, may be defined two ways, either from the *end*, or from the *matter* of *demonstration*.

4. From the *end* of *Demonstration* an *apodictical Syllogism* may be defined. Demonstration *is a Syllogism begetting knowledge, or making to know.*

5. *Demonstration* among *Geometricians*, is a *Delineation* by *Diagrams*, in which, the truth of their propositions is exhibited unto the *eye*: but amongst *Logicians* it is sometimes taken for every *certain* and *clear proof*; and here it is strictly taken for a *scientifical Syllogism*.

6. The *Genus* in this definition is *Syllogiſm* in which it agreeth with *Dialectical Syllogiſm*. The *difference* is taken from the *end* which is *Science*.

7. This word *Science* may be taken three ways, *largly*, *ſtrictly*, and *moſt ſtrictly*.

1. *Largly*, for every *cognition* or *true aſſent*.
2. *Strictly*, for *firm* and *infallible aſſent*.
3. *Moſt ſtrictly*, for the *aſſent* to ſuch propoſitions, as are known by cauſes and effects: for *firm* and *infallible cognition* is either by *ſenſe* and ſo we know that the *ſun doth ſhine at noon*; or by *underſtanding*, as when the queſtion is concerning *univerſal propoſitions*, concerning the truth of which *ſenſe* is not able to judge; but, the *cognition* of *univerſal propoſitions* is attained by, or without a *Syllogiſm*.

8. *Cognition* is begotten without a *Syllogiſm*, when full aſſent is given to a propoſition for the clearneſs of it in its ſelf without any proof. Thus we know that the *whole* is *greater* than any *part* thereof; that *God muſt be worſhipped*, and ſuch like. This kind of *Cognition*, *Ariſtotle* calls *Intelligence*, and ſaith it is diſtinguiſhed from *Science* by this, that *Science* doth proceed from *ratiocination*: but for as much as *reaſon* may be brought from ſeveral heads, that *cognition* is here called by the name of *Science*, which

s begot either by the *cauſe* or by the *effect*. And this is the moſt ſtrict acception of *Science*, and proper to this place.

9. Or thus, *Science is a certain knowledge of concluſions, to which we aſſent, for our preceding knowledg of the premiſſes*: and the *præcognita* in every *ſcience* are theſe *three*, the *ſubject*, the *affection*, and the *cauſe*, by which it is demonſtrated that the *affection* is in the *ſubject*.

10. The *Queſtion* to be demonſtrated is compoſed of the *ſubject* and the *affection*. The *premiſſes* by which the *Queſtion* is demonſtrated, are made, firſt, by joyning the *cauſe* with the *effect*, and then by joyning the *cauſe* with the *ſubject*. In all theſe *two* things are to be conſidered, the *precognitions*, which precede the demonſtration, and the *conditions*, which are to be obſerved in the demonſtration it ſelf.

11. The *Precognitions* are two. 1. *That the thing is*. 2. *What it is?*

12. In theſe *precognitions*, the things which are *evident* and *obvious* unto *all*, are ſo in the *underſtanding* only; but the things which are not ſo *evident*, but that they may be *unknown*, are expreſſed in the very *beginning* of *ſciences*.

13. And if being delivered the learner doth *preſently*,

presently believe them, they are properly called *suppositions*; but if the learner either *doubt* of them, or be of *another opinion*, they are called *postulata*, or things to which an assent is requested.

14. The *first* of these *precognitions*, *viz.* the *Quod sit*, *That the thing is*, includeth two things. 1. That the thing *sought* hath a *being*, or a *true existence*, and this answereth to the Question, *Is there such a thing?* 2. That the thing *sought* is the *true predicate* in a *subject*.

15. The other of these *precognitions*, namely, the *Quid sit*, *What it is?* doth also include two things. 1. The *name*, or what the *signification* of the name is. 2. The *nature* of the thing, that is called by that name, so that from these two *precognitions* four *questions* do arise; of which two are *simple* and two *compounded*.

16. The *simple questions* are those which do equally agree, to *accidents* and to *substances*. The *first* is made concerning the *essence* or *existence* by asking *An sit? whether it be or not?* The *second* maketh inquiry concerning the *nature* of it and asketh, *Quid sit*, *What it is?*

17. The *compounded questions* cheifly agree with *accidents*: the *first* asketh, *whether the predicate be in the subject?* as, *whether man be risible*

risible? The *other* asketh, *why the predicate is in the subject*? as, *why is man risible*?

18. Of these *four questions* the *third* hath such reference to the *fourth*, as the *first* hath to the *second*; for then in *simple terms* when we know they have *being*, we ask *what the things are*? and in propositions, when we know they have a *being*, we inquire, *why they are*?

19. After these *precognitions* and *questions* the three *præcognita* are next to be considered; namely the *subject*, *affection*, and *cause*.

20. The *subject* is a *simple term*, or *less extream* in the demonstration, concerning which, some *accident* is demonstrated by its *next cause*; as, *a man*; concerning whom we must both know, *that he is*, *and what he is*? *First*, *that he is*, or otherwise we seek the knowledg of him in vain, for there is no knowledge of a thing, that *is not*; and then we must also know, *what he is*, not only in respect of his *name* but also of his *nature*, for that must be the *medium* of the demonstration; and we must know the *medium*, at least confusedly, before we can infer the *conclusion*. The *precognition* of the things *existence* is called the *Hypothesis*; of its *nature*, the *Definition*.

21. *Passion* is a *proper Accident* which is demonstrated

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monſtrated of the *ſubject* by the *proper cauſe* it is always the *greater extream* which is predicated in the *concluſion*; as, *Riſibility*; the which is neceſſary to be *foreknown* in reſpect of the *name*, *what it is*? though not in reſpect of its *nature*; and that it be conſidered *how it is* inherent; for ſeeing it ſupplies the place of the *ſubject*, it is in ſome ſort called a *ſubſtance*. *Ariſt. lib.* 1. *poſt. cap.* 27. but it is not *foreknown*, *That it is*, for that is the thing inquired after, and which we are to find by demonſtration.

22. A *Cauſe* is that, by which the *paſſion* or *affection* is demonſtrated of its *ſubject*, and is always the *Major* propoſition of the demonſtration; as, *Every rational animal is riſible*; that being known, the *concluſion* is *vertually* known alſo, as being *vertually* conteined in it; but yet it is not *actually* known, till the *Minor* be aſſumed; which being known, the *Concluſion*, though *after in nature*, yet is known at the *ſame* time alſo. *What the cauſe is*, cannot be *foreknown*, becauſe it is a *compounded propoſition*; and *what a thing is*, is only of *uncompounded*; but it ought to be known, *That it is*, or hath a *true exiſtence*, or elſe the *Concluſion* cannot be inferred from it.

CHAP.

CHAP. VII.

Of the Conditions to be observed in a perfect Demonstration.

A *Demonstration* is to be considered, either in the respect of the *matter*, or in respect of the *form*.

2. In respect of the *matter*, one kind of *Demonstration* sheweth, *why* the *predicate* is inherent in the *subject*; and that,

1. By an *immediate intrinsecal cause*, and this is either the before demonstrated *matter*, or *form*, or *affection* of the *subject*.

2. By an *immediate extrinsecal cause*, and this is either *final* or *efficient* by some *transient action*.

3. Another kind of Demonstration in respect of the *matter*, sheweth that the *predicate* is inherent in the *subject*, and that either by the *effect*, or by some *remote cause*.

4. A *Demonstration*, in respect of the *form*, is to be considered,

1. In *quantity*, and so it is *universal* or *particular*.

2. In *quality*, and so it is *affirmative* or *negative*.

3. In the *manner* of the proof, and ſo it is either an *oſtenſive* demonſtration, or a de monſtration *reducing* to ſome impoſſible thing.

5. In the *firſt* of theſe kinds of demon ſtration called the demonſtration *Cur ſit, why a thing is*, the conditions to be obſerved do partly belong to the *queſtion*, partly to the *cauſe* or *medium* of the demonſtration, and partly to the *premiſſes*.

6. Every *queſtion* doth not admit of the firſt and moſt perfect kind of demonſtra tion, called *why a thing is?* but ſuch a *queſti on* only as is true, and hath a *certain* and *immutable cauſe* of its own truth.

7. The *conditions* to be obſerved in the *premiſſes* of a demonſtration, are *abſolute* or *relative*.

8. Thoſe are ſaid to be *abſolute conditions*, which are ſuitable to the *premiſſes* conſider ed abſolutely and in themſelves; and thoſe are ſaid to be *relative conditions*, which are ſuitable to the *premiſſes* in reference to the *concluſion*.

9. The *abſolute conditions* are two, the *firſt* is, that the propoſitions be *neceſſarily true* and *reciprocal*: The *ſecond* is, that they be *immediate* or *firſt*.

10. Demonſtrative propoſitions muſt be

true

ue (for that which is *falſe* cannot be known) d they muſt be *neceſſarily* ſo, for from opoſitions *not neceſſarily true*, no *neceſſary* *nclusion* can be inferred, unleſs by *chance* or *cident*; and they muſt be *neceſſarily true* in the gheſt degree, that is, they muſt be *recipro-*. For they contein the *next cauſe* of the *edicate*, which is ſuch as that it is *reciproca-* with its *effect*.

11. A propoſition is ſaid to be *immediate*, o waies. 1. In reſpect of the *ſubject*, hen there is no more *immediate ſubject* be-een the *predicate* and the *ſubject*; as, *a an is rational, a man is riſible.* 2. In re-ect of the *cauſe*, when no more *immediate uſe* doth intervene between the *predicate*, d the *ſubject*; as, *that which is rational is ible; a man is rational.*

12. In a *moſt perfect* demonſtration, where e *middle term* is the *material* or *formal in-nal cauſe* of the *ſubject*, and *efficient* of the ect by emanation, the *major* propoſition *immediate* in reſpect of the *cauſe*, but not the *ſubject*, as *that which is rational, is ible*: The *concluſion* is *immediate* in reſpect the *ſubject*, but not of the *cauſe*; as, *a an is riſible*: The *minor* is *immediate* in re-ect of the *cauſe* and the *ſubject* both; as, *a n is riſible.*

13. In

13. In a *most perfect* demonſtration, wh the *middle term* is not the *internal cauſe* of t *ſubject*, though both the *major* and *concluſ* be *immediate*, yet the *minor* is not *imm diate* in reſpect of the *cauſe*. This happ in every chief demonſtration from the *ternal cauſe*; as alſo where we proceed fr one *affection* predemonſtrated, to the dem ſtration of another; ſuch as are all *mat matical* demonſtrations for the moſt part; *Zab. de medio demonſt. c. 7.*

14. The *relative* conditions to be obſ ved in reference to the *concluſion* are *th firſt*, that the *premiſſes* be the *cauſe* of the *c cluſion*; *ſecondly*, that they be *before*; *third* that they be *more known* than the *concluſ*

15. The *premiſſes* may be ſaid to be *cauſe* of the *concluſion*, as the *medium* is *cauſe*, why an *affection* is not only the *ca* why the *concluſion is* known, but the *ca* why it is *true:* and as the *medium* is before *affection*, not in *time* but *nature*, ſo the *tr* of the *premiſſes* is *firſt* in nature, *before truth* of the *concluſion*. *Laſtly*, as the *me um* is *more* known than an *affection*, not a confuſed knowledge and in reſpect of but by a diſtinct knowledge, and accordi to nature: ſo are the *premiſſes more* kno than the *concluſion*; becauſe we by reaſon

he *premiſſes* receive the *concluſion* with full ſſent of mind, we muſt needs aſſent to that ore than to the *premiſſes*; for according to riſtotle, *That for which another is ſuch as it , muſt needs it ſelf be more ſuch. Lib.* 1. *poſt. p.* 2.

16. *Premiſſes* are of two ſorts, *Axiomes* and *heſes.*

17. An Axiome *is a propoſition of whoſe uth no body can be ignorant, the ſignification the words being known.*

18. A Theſis *is a propoſition, whoſe truth th not ſufficiently appear by knowing only the nification of the words, but by the judgment the ſenſes, or any other declaration*; and it either a *Definition* or an *Hypotheſis.*

1. A *Definition* is that, by which we ſhew *hat a thing is.* An *Hypotheſis* is that, by hich we ſhew *whether the thing be or t.*

20. The *medium* of a *demonſtration* ought be the *next cauſe* of the *predicate*; and at either *efficient* or *final*; and the *efficient* ther *internal* or *external.*

21. A *cauſe* may be ſaid to be the *next* ther *abſolutely*, or *in his own kind*; here it underſtood to be the next *abſolutely*, that is ſuch a *cauſe* as doth produce the *effect*, nd without which that *effect* cannot be:

For

For as much as there are *four* kinds o *cauſes*, and in every kind ſome one the *nex* of the four *next* cauſes, there is but on that is the next *abſolutely*.

22. Moreover it is required that this *nex cauſe* ſhould be the *cauſe* of the *predicate*, b it is neceſſary that it ſhould be the *cauſe* the *ſubject* alſo; for the queſtion is not, wh ther there be a *ſubject*? for this is ſuppoſe but whether there be a *predicate*, or wheth it be inherent in the *ſubject*?

23. This *next cauſe* muſt be either t *efficient* or the *final*; for when the *predica* is an *accident* it hath neither *matter* n *form* properly ſo called. The *final cauſe* uſed in thoſe things, which are made for ther; ſuch as are *mediums* and *natural i ſtruments*; *actions* alſo and *habits*, if any ſu can be demonſtrated. The *efficient cauſe* uſed in all the reſt. Sometimes it falls o that the *next efficient cauſe* is alſo the *form matter* of the *ſubject*, and theſe kind of d monſtrations are indeed the moſt excelle but do not make a different *ſpecies* of the ſelves, but theſe things will be more clea underſtood by the examples following.

1. *Every rational creature is capable knowledge,*

Ev

Every man is a rational creature,
Therefore every man is capable of knowledge.

In this demonſtration the *medium*, *rational*, the *internal efficient cauſe* of the *predicate*, nd *form* of the *ſubject*.

2. *Every terreſtial thing doth ſink in water,*
Ebene is terreſtial,
Therefore Ebene doth ſink in water.

Here the *medium* is the *internal efficient uſe*, and *matter* of the *ſubject*.

3. *Whatſoever doth conſiſt of matter and form hath three dimenſions.*
Every body doth conſiſt of matter and form,
Therefore every body hath three dimenſions.

Here the *medium* is the *internal efficient uſe* of the *predicate*, and both the *form* and *matter* of the *ſubject*.

4. *That which hath three dimenſions, will not admit of another body in the ſame place, with it ſelf,*
But every body hath three dimenſions,
Therefore &c.

Here

Here the *medium* is the *internal efficien* *cauſe* of the *predicate*, and *propriety* of th *ſubject*.

5. *That which by the interpoſition of th earth cannot be enlightened by the Sun beams, doth ſuffer an Eclipſe of the Sun light,*
But the Moon, the earth being interpoſed ca not be enlightened by the Sun-beams,
Therefore the Moon &c.

Here the *medium* is the *external efficien* *cauſe* of the *predicate*.

6. *Whoſo is made for the contemplation Heavenly things, ought to have his counte nance lift up,*
Man is made for the contemplation of He venly things,
Therefore &c.

Here the *medium* is the *final cauſe* of th *predicate*.

24. Sometimes it ſo comes to paſs, th one and the ſame queſtion may be demon ſtrated both by the *efficient* and *final cau* ſo you may demonſtrate *that a living cre*

e doth ſleep, either becauſe the common
ſe is overcome by vapours, and that the
ſage of the external ſenſes are obſtruct-
and this is a demonſtration from the
ient cauſe; or that the animal ſpirits may be
reſhed and ſtrengthened, and this is a de-
nſtration from the *final cauſe*.

CHAP. VIII.

an Imperfect Demonſtration or the Demonſtration, What.

HAving hitherto ſpoken of the *principal* Demonſtration, or the Demonſtration *by?* the next is the *leſs principal*, or the monſtration *What?* and which leaveth an perfect knowledge, and is twofold; the is from the *effect*, the *other* from a *remote uſe*.

The *firſt* of theſe collecteth the *cauſe* from me *ſenſible effect*; for example ——

Every thing that is riſible is rational,
Every man is riſible,
Therefore every man is rational.

Here

Here the *medium* is the *next effect*, and the *predicate* is the *cauſe* of the concluſion.

2. The *ſecond* of theſe demonſtrations collecteth the *effect* from ſome *remote cauſe* for example.

That which hath not a ſenſitive ſoul doth not breath,
A Plant hath not a ſenſitive ſoul,
Therefore a plant doth not breath.

3. A Demonſtration from the *effect* may be *affirmative* in *Barbara*, and ſometimes *negative*, though ſeldome, in *Cameſtres*.

4. A demonſtration from a *remote cauſe* is *negative*, very ſeldome *affirmative*, and conſequently is reſtrained to the *third* figure *Cameſtres*: for example.

Every riſible thing is an animal,
No Tree is an animal,
Therefore no Tree is riſible.

5. Demonſtration from the *effect* is more excellent than from a *remote cauſe*.

1. In reſpect of the *form*, the one being *affirmative* in *Barbara*, the other *negative* in *Cameſtres*.

2.

2. In reſpect of the *matter* for in the ne the propoſitions are *moſt neceſſarily* ue, and differeth nothing from the *moſt rfect* Demonſtration, but in placing of e terms, and begetteth a perfect know- dge not ſimply, but in its kind: but e Demonſtration from the *remote cauſe* is ade of *leſs neceſſary*, and not immediate ropoſitions, nor doth it beget a know- dge that is perfect in its own kind, and which the mind may reſt ſatisfied; yet oth of them are ſo perfect, that they are ther of them ſufficientl to beget ſuch a nowledge as to give us ſatisfaction of the eing, or not being of a thing.

CHAP. IX.

Of Demonſtration in reſpect of the form, and of the Affections the moſt perfect Demonſtration.

HItherto we have ſpoken of the two kinds of demonſtration in reſpect the *matter*; we are now to ſpeak of them reſpect of the *form*.

2. The *form* of a demonſtration is partly diſcerned from the *quantity*, partly from the *quality*, and partly from the *manner* the *proof*.

3. The *form* of a demonſtration in reſpect of the *quantity* is *univerſal* or *particular*:

An *univerſal* demonſtration is that, which *an affection is demonſtrated of the adæquate and univerſal ſubject by an immediate cauſe*; as when we demonſtrate *riſibility* *man*, by his *rationality*, and all the *moſt perfect* demonſtrations are of this kind, *Why a thing is ſo*. And a Demonſtration proving from the *effect*, *That a thing is*, is of the kind alſo.

A *Particular* demonſtration, (not ſo called if the *terms* were *particular*) *is a demonſtration in which an affection is demonſtrated from an inadequate and a leſs univerſal ſubject, or from one part of the firſt ſubject only*; as, when we demonſtrate a man to be *ſenſible*, by his *ſenſible ſoul.*

The *form* of demonſtration in reſpect of *quality*, is *affirmative* or *negative.*

An *affirmative demonſtration* is that, *in whoſe concluſion the predicate is affirmed of the ſubject, which happens in all demonſtrations, except the particular, which is ſometimes negative.*

A *Negative Demonſtration* is that *in whoſe concluſion the predicate is denied of the ſubject*, as,

Every thing that breatheth is an animal.
A wall is not an animal,
Therefore a wall doth not breath.

And this doth often come to paſs in the demonſtrate *That*, from a *remote cauſe*; it may alſo happen in all other demonſtrations though very ſeldome, and that by conſequence only: for an affirmation is before negation, both in reference to the thing, and our knowledge of it.

5. The *form* of a demonſtration in r ſpect of the *manner* of the proof, is eith *oſtenſive*, or by *reduction* to *impoſſibility*.

An *Oſtenſive Demonſtration* is that, which *the concluſion is evidently and direc inferred from former and more known prem ſes*, &c. Of which ſort are all the before n med kinds of demonſtration.

A *Demonſtration by reduction to impoſſibil* is, when *from granted premiſſes we prove conclusions to be therefore true, becauſe th contradictories are apparently falſe*; for examp

Every rational thing is riſible,
Every man is rational,
Therefore every man is riſible.

Here if the *major* be denied, we may r duce the reſpondent to an abſurdity taking the contradictory of the *majo* thus,

No rational thing is riſible,
Every man is rational,
Therefore no man is riſible.

Which *concluſion* being *manifeſtly falſe*, we fer that the *major* in the former *ſyllogiſm*, well as the *concluſion* were both true; or t

e two contradictories are together, true falſe; and this kind of Demonſtrarion is e meaneſt of them all.

But here we muſt obſerve, that an *uniſal contrary propoſition*, is rather to be tan, than a *particular contradictory*; both beuſe *particular* propoſitions have no place demonſtration, as alſo becauſe *contrary* ropoſitions in *neceſſary* matter, ſtand in the lace of *contradictory*. *Zabarel. lib.* 1. *poſt. c.* 2. *ſect.* 176.

And thus having done with the *kinds* of emonſtration; I come in the next place to peak of the *affections* of the chiefeſt and moſt erfect demonſtration, and they are chiefly hree, *Analyſis*, *Regreſſus*, and *Converſion into Definition*.

1. Analyſis *is the reſolution of effects into heir firſt cauſes to beget a perfect knowledge hereof*; for when there is a certain chain and ubordination of efficients, and effects, although the latter may be demonſtrated by the former, yet the mind is not ſatisfied in that, but inquireth further for the cauſe of that effect alſo, and ſo forward, to the firſt cauſe which is the *form* of the ſubject, of which no cauſe can be given, and in which alone the mind is ſatisfied; as, if *Augmentation* in

all things living were demonſtrated by *nou-riſhment*, and that again by the *vegetative* fa-culty, and that by the *ſoul*.

1. Regreſſus *is the reciprocation of the cauſe and effect by demonſtration*: which *effect* we do *reciprocally* demonſtrate by that *cauſe*, by which the ſaid *effect* was it ſelf demonſtrated: this *affection* or *power* is called *Regreſſus*, becauſe after our underſtanding hath proceeded from a kind of confuſed and experimental know-ledge of the *effect*, as nearer to ſenſe, to the like confuſed knowledge of the *cauſe*; and hath ripened that knowledge by often me-ditating on, and comparing of the *cauſe* to the *effect*, till it come from a confuſed to a diſtinct knowledge: then it returns from that diſtinct knowledge of the *cauſe* to the like diſtinct knowledge of the *effect*. *Pro-greſs* is therefore made by the demonſtration *That*, and by an after demonſtration, and hath reſpect unto the confuſed knowledge of the *cauſe* by the *effect*. But *regreſs* is by the demonſtration *Why*, and by a former demon-ſtration and hath reſpect unto the diſtinct knowledge of the *effect* by the *cauſe*, and differs from that vitious demonſtration, which they call a *circle* in *three* things.

1. In the *form*; for a *circle* doth from the *premiſſes* demonſtrate the *concluſion*, and from the

e *concluſion* put into the place of the *Ma-r* and the *Minor* ſimply converted, it doth gain demonſtrate the *Major*; then again rom the ſame *concluſion* put into the place f the *Minor*, and the *Major* ſimply converted n the place of that, it doth demonſtrate the *Minor*: which any one, that will, may expe-iment by this inſtance.

Every rational thing is riſible,
Every man is rational,
Therefore every man is riſible.

But in *regreſs* we only demonſtrate the *minor*, from the *major* ſimply converted, and the *concluſion* put into the place of the *mi-nor*. And ſo there will be a *natural predica-tion* in every propoſition, the which is not in a *circle*.

2. In the *Matter*; for the *matter* of a *circle* or *middle term*, is uniform in both the de-monſtrations, ſeeing it is the *next cauſe* of the *major extream*, proving *why a thing is*; but in *regreſs* the *effect* doth firſt demonſtrate, *that there is a cauſe*, then after conſideration had about the *cauſe*, the *cauſe* doth demonſtrate *why there is an effect*.

3. In the *end*; for in a *circle* the ſame thing is both *beginning* and *end*, ſeeing it proceeds

from a *cauſe* diſtinctly known, to a *cauſe* diſtinctly known, and returns from *this* to *that*; but in *regreſs*, the *end* is a diſtinct knowledge of the *effect*, and the firſt *progreſs* is from an *effect* confuſedly known to a *cauſe* to be confuſedly known; but from a *cauſe* confuſedly known, conſideration being had, we come to the diſtinct knowledg of the *cauſe*, and from that once habituated and radicated in the underſtanding, we return to the diſtinct knowledge of the *effect*.

3. *Converſion* of a demonſtration into a *definition* is, when from the terms of a demonſtration, the *definition* of a *proper accident* is framed by *tranſpoſition*. And the *definition* of a *proper accident* is twofold.

1. *Partial*; and that is either,

Nominal, which conſiſts of a *Genus* and a *ſubject*; as, *an Eclipſe in the defect of light in the Moon.*

Cauſal, which is the *middle term* in the *moſt perfect* demonſtration, ſhewing, *why there is an effect*; as, *an Eclipſe is the interpoſition of the Earth.*

2. *Total*, which being made of the *nominal* and the *cauſal* both, doth conſiſt of a *Genus*, a *ſubject*, and the *next cauſe*; as, *an Eclipſe is the defect of light in the Moon, by reaſon of the interpoſition of the earth.*

A *nominal definition is the concluſion of the of the demonſtration*: *A cauſal is the beginning*: *A total is an intire or whole demonſtration, differing in nothing from it, but the placing of the terms*: for the thing *defined* is the *greater extreme*, the *leſſer extreme* the *ſubject*, and the *cauſe* the *middle term*.

CHAP. X.

Of a Topical Syllogiſm in the General.

HItherto we have ſpoken of a *demonſtrative Syllogiſm*, whoſe *matter* is *neceſſary*, and the *end a perfect knowledge*: come we now to a *dialectical* or *topical Syllogiſm*, whoſe *matter* is *probable* and *contingent*, and the *end*, *opinion*.

2. In *a dialectical or topical Syllogiſm*, we are to conſider of *Problemes*, *Propoſitions*, and the *invention* of arguments.

3. A Probleme *or* Queſtion, *is the thing of which it is probably diſcourſed, and the concluſion of a Syllogiſm already made*. But that this *Problem* may be *dialectical*, *two* conditions are required.

1. *That it be profitable either to life*, and then it is called a *moral Probleme*; as, *whether pleaſure be good?* or to *knowledge*, and then it is called a *Phyſical* or *a natural probleme*; as, *whether the world be eternal?* or to ſome thing that is *ſubſervient* unto theſe, and then it is called a *Logical Probleme*; as, *whether diviſion be a Syllogiſm?*

2. *That it be doubtful*, in which either the common people do diſſent from wiſe men; as, *whether riches make men happy*: or the common people diſſent among themſelves; as, *whether uſury be lawful*; or the wiſe men diſſent among themſelves; as, *whether the heart be the moſt noble part of man.*

4. The *parts* of a *Probleme* are the two *terms* of *ſubject* and *predicate*. As concerning the *ſubject* I give no directions, becauſe a *dialectical Syllogiſm* is not reſtrained to any certain ſubject. But the *Predicates* according to *Ariſtotle* are *four*, *Genus*, *Definition*, *Accident proper* and *common*. He adjoineth *difference* to *Genus*, if it be more comprehenſive than the *ſpecies*, or to *definition* if it be reciprocated with the *ſpecies*: if the *ſpecies* chanceth to be attributed in any *Probleme*, it is reduced to *Genus*.

5. *Dialectical Propoſitions* ought to be certain, at leaſt *probable* and not *Paradoxes*.

6. That

6. That is ſaid to be *probable*, which not being *abſolutely true*, doth rather *ſeem* to be *true*, than *falſe*. There are *five degrees* of *probability*; for that is ſaid to be *probable* which *ſeemeth to be true*, either to *all*, to *moſt men* or unto *wiſe men*, and that either to *all* of them, or to the *moſt*, or to the *wiſeſt* of them.

7. That is ſaid to be a *Paradox*, which is *true*, though *contrary* to the *vulgar opinion*.

8. For the *invention* of arguments, we are to conſider common *places* and *rules*.

9. A *place* is a *ſenſe* or *commmon note*, by whoſe help an argument is found.

10. A *Rule* or *Canon* is a propoſition containing the *reaſon* of the conſequence in a *dialectical Syllogiſm*.

11. *Arguments* are of two ſorts, *artificial* and *inartificial*.

12. *Artificial arguments*, are ſuch as from the conſideration of the parts of the *probleme*, are not found but by *rules of art*.

13. *Inartificial arguments* are ſuch as are found *without any help* of art, and theſe are nothing but *teſtimonies*.

14. Several men do reckon the order of theſe *heads* or *places* ſeverally. *Ariſtotle* reduceth all *heads* to the *four predicates* mentioned

tioned before; ſome for the more plainneſs and diſtinction, reckon up *twenty* and *five*; and this number ſome contract to *thirteen*; others to *ten*; and perhaps they may without any inconvenience be reduced unto ſeven.

1. The *Cauſe* and the *Effect*. 2. The *ſubject* and the *Accident*. 3. *Diſſentany* and *Compariſon*. 4. *Conjugates* and *Notation*. 5. The *whole* and its *parts*. 6. *Genus* and *Species*. 7. *Definition* and *Diviſion*. In every of theſe *places*, I will in the propoſed order ſhew you the *Canons* to be obſerved, and the reſtrictions of them.

CHAP. XI.

Of the Topicks from the Cauſe and the Effect.

THere are *four* kinds of *Cauſes*, *efficient*, *material*, *formal and final*; there are ſeveral ſub-diviſions of them, but theſe following are the moſt convenient to our purpoſe: as, 1. Into *total*, as *Gold is the cauſe of money*, *the Sun of the day*; and *partial*, as, *timber is the cauſe of a houſe*; *nature of learning*. 2. Into

into a *cauſe actually*, as, *a builder is the cauſe of an houſe*; and *a cauſe potentially*, as, *an architect may build an houſe*. 3. Into *a remote cauſe*, as, *a feaſt* may be the *cauſe* of *ſickneſs*; and the *next cauſe*, as, *crudity in the ſtomach is the cauſe of ſickneſs*. 4. Into *a cauſe ſimply and by it ſelf*, as, *the Sun is the cauſe of light*; and *a cauſe by accident*, as, *the Sun of blindneſs*.

The *Canons* or *Rules* of this *Topick* are theſe.

1. *The cauſe being granted, the effect cannot be denied*; and, *if the cauſe be taken away, the effect is taken away alſo*; as, if the Sun *ſhine*, it muſt be day, if the Sun doth *not ſhine*, it is *not day*; the *former part* of this *Canon* hath *four* limitations.

1. In a *remote cauſe*; as, he that drinks wine is not *alwaies* made drunk. 2. In *a cauſe that is obſtructed in its operation*; as, heavy things do not *alwaies* deſcend, becauſe they may be hindered by ſome thing that holds them up. 3. In *a cauſe by accident*; as, he that diggeth in the earth doth not *alwaies* find gold. 4. In *a cauſe not ſufficient of it ſelf*; as, he is not *alwaies* learned that is induſtrious; nor that ground *alwaies* fertil, that is well tilled; becauſe to both

both theſe more is required.

The *latter* part of this *Canon* hath *three* limitations. 1. In *a cauſe by accident*; as he that doth *not* dig into the earth may find a treaſure. 2. In *a cauſe that may, but is not*; as, a building *may* ſtand, though the Architect be dead. 3. *As oft as the effect may be produced by diverſe cauſes*; as, *Socrates may* die, though he doth not drink poyſon.

2. *The effect being granted, the cauſe is alſo granted, and the effect being taken away, the cauſe is taken away alſo.* The *firſt* part of this *Canon* hath *three* limitations. 1. *In an effect by accident*; as, a treaſure *may* be found though the earth be *not* digged. 2. *In an effect that doth remain after the cauſe*; as, the houſe *may* remain, though the builder be dead. 3. *In an effect that may be produced by diverſe cauſes*; as, a man *may* die, though *not* by poyſon. The *latter* part hath alſo *three* limitations. 1. *In an effect by accident*; as, a man *may* dig in the earth, and *not* find a treaſure. 2. *In an effect which was, but is not*; as, a building *may* be deſtroyed though the builder be living. 3. *In an effect produced by a free agent*; as, there *may* be a Phyſician although he doth not cure any diſeaſe.

3. Such

3. *Such as the cauſe is, ſuch is the effect, and the contrary*; as, if the *tree be good, the fruit will be good*, and the contrary; *both* parts of this *Canon* have *two* limitations. 1. *In æquivocal cauſes and effects*; as, the *draught* may be beautiful though the *painter* be deformed. 2. *In a material cauſe*, for ſome thing that is *extrinſecal*; as *ice* is not fluid becauſe *water* is ſo.

4. *That for which any thing is ſuch, is much more ſuch it ſelf*; as, the *air* being *hot* by reaſon of *fire*, doth argue that *fire* is *much hotter* than *air*.

This *rule* faileth. 1. Where *both* are not ſuch; as, *wine* which maketh a *man drunk*, is not *it ſelf more drunk*, becauſe *drunkenneſs* cannot be ſaid to be in *wine*. 2. Where it doth not receive *more* and *leſs*; as, a *father* is not *more a man* than a *ſon*, although he be the *cauſe* why the *ſon* is a *man*; for *humanity* doth not receive *more* and *leſs*. 3. In a *cauſe not ſufficient of it ſelf*; as, a *Maſter* which maketh his ſchollar *learned*, is not alwaies *more learned* than his *ſchollar*; for by his ingenuity and induſtry it ſometimes ſo comes to paſs, that the *ſchollar* is *more learned* than the *maſter*.

5. *The cauſe is in nature before the effect*; as, *reaſon* before *riſibility*; and this never faileth

faileth; for a *final cauſe* in which it onl
ſeems to fail, although it be in *act* and exe
cution after the effect, yet it is *before* it in th
intention of the *agent*, for which only rea
ſon it is the *cauſe*.

CHAP. XII.

Of the Topicks from the Subject and the Accident.

WE do not here take the *ſubject* fo
ſubſtance in which the *accident* is in
herent, or *accident* for that which doth pre
ciſely and adequately adhere to the *ſubſtanc*
but *ſubject* is here taken for all that, to
which *any thing not belonging to its eſſence i*
attributed: An *accident* is here taken fo
every ſuch *attribute*; as, *number* is the *ſub*
ject of *equality*, that is, it is an *accident* o
an *accident*.

An *accident* may be divided many ways
and ſo may a *ſubject*, for an *accident* is i
either *proper* or *common*. 2. *Separable* or *inſepa*
rable. 3. *Inherent* or *internal*, and *adherent* or *ex*
ternal. 4. And chiefly it is either *accidental*
as *wearineſs* doth accompany a *feaver*, *a pal*

M.on

oon, *rain*, and all *prognoſticating ſigns*: *Con-*
mitant, as an *Eclipſe* of the *Full-Moon*,
nd *conſequent*, as, a *day*, to the *twilight*;
ns and *circumſtances* do alſo belong to this
pick.

The *Canons* or *Rules* are *five*.

1. *The ſubject being granted, the proper ac-*
dent is alſo granted; and being taken away
e proper accident is taken away alſo, and the
ontrary; as, *if he be a man, he is riſible*, and
e contrary; and *if he be not a man, he is*
t riſible, nor the contrary. This *rule* ne-
r faileth by reaſon of the reciprocation
the *ſubject* and the *proper accident*.

2. *The ſubject being granted, the common*
cident is alſo granted, but *not* the contrary;
if it be ſnow, it is white; but *if it be white*
is not therefore *ſnow*. The *firſt* part of
is *rule* faileth in *ſeparable accidents*; as *if*
be water it is not therefore cold. And the
ter part faileth; 1. In a *proper accident*,
firſt way; as, *if there be knowledge there*
a man; 2. In an *individual accident*; as
there be this whiteneſs, there is ſnow; be-
uſe an *accident* doth not change its *ſub-*
.

3. *A common accident being taken away,*
ſubject is taken away, but not the contra-
as, *if it be not white, it is not ſnow*

bu,

but yet there may *be white, though there be n* *ſnow.* The *firſt* part faileth in a *ſepa* *rable accident*, the *latter* in a *proper accident* the firſt way; and in an *individual accident* and *ſubject*, as in the former rule.

4. *The thing being granted, the circum* *ſtance of time and place is granted, and th* *circumſtance being taken away, the thing is ta* *ken away*; as, *if* Milo *did kill* Clodius, *the* Milo *was living and preſent*; *if he was neithe* *living nor preſent he did not kill him.* Thi *rule* never faileth in any requiſite *circumſtanc* neceſſarily.

5. *The antecedent, concomitant, & conſequen* *being granted, the conſequent, concomitant an* *antecedent for every exigence is alſo granted* to wit a concomitant *in being*, an anteceden *in being*, or that *hath been*, a conſequent *in be* *ing*, or that *will be*, and *being taken away th* *other is taken away alſo*; as, *if there be an E* *clipſe there is a full Moon*; *if there be a birt* *there was a conception*; *if there be a twilight* *the Sun will riſe.* This *rule* faileth; 1. I a thing not cohering *neceſſarily*; as he whic is a *Philoſopher*, muſt not of *neceſſity* be there fore *poor*; and if there be a *Comet*, it do not follow there *muſt* be *war*. 2. In thin cohering *neceſſarily*, if there be not a *mutu* *neceſſity*; for though it be true, that *if the*

e an Eclipſe there is a Full Moon; yet it oth not follow that *if there be a Full Moon here muſt always be an Eclipſe*; yet theſe hings *not neceſſary* are of great force to be- et belief, eſpecially if many of them ſhall e joined together in one. Hence *Aſtrolo- ers*, *Phyſiognomers* and *Orators* do highly alue this *Topick*, in queſtions of *fact* eſpe- ally.

CHAP. XIII.

f the Topicks from Diſſentany and Compariſon.

Diſſentanies are either *Oppoſites* or *Diſpa- rates*; as, a *Horſe* and a *Bull*. There are ur kinds of *Oppoſites*, of which, *Book* 1. *hap.* 13. *Compariſons* are either in reſpect *quality*, as *like* and *unlike*, or in reſpect of *antity*; or alſo of *degrees*, as *equal* and *une- al*; and whatever may be ſaid to be *more leſs* and *equal*. All which have their ſeveral *ules* or *Canons*.

Concerning *Relative oppoſition* the *Canon One of the relates being granted, the other is anted alſo, and one being taken away, the o-*

ther

ther is taken away alſo; as, if there be a *ſon* there is a *father* &c. This *rule* faileth; 1. In *accidental relations*, as it being granted that there is ſomething *knowable*, it doth not follow that there is a *knowledge of it*. 2. If it be underſtood of the ſame *ſubject*; as, he which is the *father* of this man may not not not be at all, but it is impoſſible, that he ſhould be the *ſon* of him, of whom he is the *father*.

Concerning *contrary oppoſition* the *Canons* are theſe following.

1. *One of the contraries being granted the other is taken away*; as, *if water be warm it cannot be cold*. This *rule* faileth in *remiſſ qualities*, for the *water* which is *hot* to *ſix degrees*, is *cold to two*; becauſe the *remiſſion* of *quality* is alwaies by *admiſſion* of the *contrary*.

2. *One of the contraries being taken away the other doth remain*; as, *if water be not dry it is moiſt*. This *rule* faileth 1. *In mediate contraries*; as, *Honey is neither white nor black but yellow*. 2. *In an uncapable ſubject*, as, *ſoul is neither white, nor black, nor hot, nor cold*.

3. *Contraries have the ſame Genus and ſubject*; as, *if white be a colour, black is a colour alſo*; *if love be a concupiſcible faculty, it is hatred*. This *rule* never fails.

4. *Contrari*

4. *Contraries have contrary causes, effects, properties*, and *next subjects*; as, *if grief be to be avoided, pleasure is to be followed*; and *if cold congeals, heat dissolves*. This *rule* faileth; 1. in the *predications* of a *Genus* or a *Generical affection*; as, because *whiteness is a colour* or *visible*, it doth not follow that *blackness is not a colour*. 2. If the *nature* of the *subject* will not bear it; as, because *health* is agreeable to living creatures, it doth not follow that *diseases* are agreeable to things without life, but rather the contrary. 3. In *causes* by *accident*; for if a *good man* doth *love* and *defend* his children, it doth not follow that *a wicked man* must therefore *hate* and *destroy* his, because to *love* his children, is not so much from *vertue*, as *nature*. 4. In *causes* whose *action* is determined by the *disposition* of the *matter*; for *cold* doth not therefore *soften dirt*, because heat doth make it *hard*.

5. *The contrary of a greater good is a greater evil*, and the contrary; as, *because that health is better than riches, therefore sickness is worse than poverty*. This *rule* faileth where *one* of the *good things* is included in the *other*, or supposed by it; as, *it is more advantageous to be a Philosopher than to know letters*; but yet of the *two*, *Philosophy* may be best spared.

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The *Canons* of *privative oppoſition* are theſe *two.*

1. *The habit being granted, privation is taken away,* and the contrary; as, *if a man doth ſee, he is not blind; if he be blind, he doth not ſee.* And this *rule* never faileth.

2. *The habit being taken away, privation is granted,* and the contrary; as, *he doth not ſee, therefore he is blind. He is not blind, therefore he doth ſee.* This *rule* faileth; 1. in an *incapable ſubject*; as, *a ſtone doth not ſee,* and yet it is not *blind* 2. In a *capable ſubject,* before the time in which it is capable; and therefore though a *whelp* doth not *ſee* untill it be nine days old, yet cannot it be ſaid to be *blind.*

Of *contradictory oppoſition* there is *one* only never failing *Canon, One of the contradictories being granted, the other is taken away, and one being taken away the other is granted;* as, *if a wall be white,* it cannot be ſaid, *it* be not *white; if it be not white,* it cannot be ſaid to be *white.*

The *Diſparates* have but *one Canon, One of the Diſparates being granted, the reſt are taken away*; as, *if* Socrates *be a man, then he is neither a bull nor a ſtone.* This *rule* faileth in *accidents,* when they are attributed unto *ſubject*

ſubjects in the *concrete*, for the ſame *meſs* may be *white* and *ſweet*.

The *Canons* of *like* and *unlike*, *proportional* and *unproportional* are theſe.

Like and proportional do agree with like and proportionals; diſlike and unproportional do agree with diſlike and unproportionals; as, *if* Plato *be mortal*, Socrates *is alſo mortal*; *if the eye directs the body, then reaſon ſhould direct the mind*. This *rule* faileth unleſs it be underſtood *reduplicatively*, that is of *like* as *like*; for every *like* is alſo *unlike*, or elſe it could not be *like*, but the ſame; and hence a *Crow* cannot be ſaid to be *rational*, becauſe a *Blackmore* is ſo, and ſo of the reſt: And here the reſpondent (if he do except againſt the *arguments* founded on this *Canon*) muſt ſhew in what the things propounded are *like* or *unlike*.

Probable propoſitions, and things *compared* among themſelves, are ſaid to be *more* and *leſs* and *equal*. The *Canons* concerning *compariſon* of things are *general* or *ſpecial*.

The *general rules* are theſe.

1. *That which is ſuch by nature, is more ſuch than that which is ſo by participation*; as, *the Sun is lighter than the air*.

2. *That which is by it ſelf is more ſo, than that which is by accident*.

3. *That*

3. *That which is more remote from the contrary, is more than that which is nearer*; as, *the air is colder under the Poles, than under the Tropick.*

4. *That which makes more, is more than that which maketh less*; as, *fire vehemently heating.*

5. *That in which the cause is more inherent, is more than that in which it is less*; as, *a young man is stronger than an old.*

6. *That to which the definition or the mean is more agreeable is more than that to which it is less*; as, that which doth *more* conduce to the *end*, is *more profitable*, and many more which do all fail, unless there be a restriction of the rest being *like*; for *terms* of comparison do almost exceed one another mutually and are exceeded.

Special rules concerning that which is *more* or *less good* are these.

1. *The more good things there are in any subject, the better it is*; as, *peripatetick felicity, is better than the Stoick.*

2. *The more it is good to, the better*; as, *Justice is better than fortitude.*

3. *That which is desired for it self, is better*; as, *peace is better than war.*

4. *That which is in it self good is better*; as, *good laws are better than evil manners.*

5. That

5. *That which is more durable, is better*; as, *verture is better than beauty.*

6. *That which is ſolitarily good is better*; as, a *competency is better than great riches.*

7. *That which hath the more noble object, is better*; as, *Divinity is better than Phyſick.*

8. *That which leads to perfection is better than that which ſerves for neceſſity*; as, *ſeeing is better than feeling.*

9. *That which is the nearer to the end is the better*; as, *the Harveſt is better than ſeed-time.*

10. *That which tends to the more noble end is the better*; as, *Liberal Arts are better than Mechanical.*

11. *That which is the more like the better is better*; as, *Braſs is better than Lead.* And *many* more of this kind *Lib.* 3. *Ariſtotles Topicks.* All which are to be underſtood with this limitation, *that all other things be anſwerable.*

The *Canons* of the *Probabilitie* of propoſitions are theſe.

1. Of ſuch propoſitions, which are *equally ſuch* or *not ſuch*; if one *be ſuch*, the other *is*, if the one be *not ſuch*, neither is the other; as, *honour* and *riches* do *both* ſeem to conduce *alike* to *happineſs*; if honour

therefore do not make a man *happy*, *neither* do *riches*; if *meat* be *neceſſary to maintain life*, *drink* is alſo *neceſſary*.

2. If that which *ſeems more* to be ſuch, be *not* ſuch, that which ſeems *leſs* to be ſuch is *not* ſuch; as, *all that like* Mævius, *do not like* Homer.

3. If that which doth *leſs* ſeem to be ſuch *be* ſuch, then that which doth *more* ſeem to be ſuch *is* ſuch alſo; as, if he that is *guilty of theft* deſerves to be hanged, he that is *guilty of Sacriledge*, doth *much more* deſerve it.

CHAP. XIV.

Of the Topicks concerning Conjugates and Notation.

THey are properly called *Conjugate* which for the *affinity* of ſignificatio have alſo an *affinity* in the *voice* or *ſound*; a *juſt*, *juſtice*, and *juſtly*; ſome *Conjugates* ar only *nominal*, ſome *real* and ſome *both*, an do comprehend *Denominatives* under then and are either *ſubſtantives*, where one is *Noun Subſtantive*, abſtracted from the *ſu jecti*; as, *juſtice*, *juſt*; or an *Adjective*, whe they be both *Denominatives*, or *Concrete* whi

which ſhew the *form* in the *abſtract*; as, *juſt*, *juſtly*. *Notation*, or *Etymology*, is the *explication* of a word by the original thereof; as, a *Conſul* from *counſelling the commonwealth*.

The *Canons* or *Rules* of *Conjugates* are,

1. *That to which one of the conjugates doth agree, the other doth agree alſo*; and the contrary; as, *if* Socrates *be juſt*, *he will do juſtly*. This *rule* faileth 1. In thoſe which are *nominal Conjugates* only; for if *Socrates drink wine*, it doth not preſently follow, that he is *a wine-bibber*, that is, a *drunkard*. 2. When we argue from one or ſome *far actions*, that there is a *habit*, and therefore it doth not follow, that *Socrates is juſt*, becauſe he hath done ſome things that are *juſt*. 3. When we argue from the *power* to the *act*, as, *Socrates is riſible*, though he do *not laugh at preſent*.

2. If *one* of the *Conjugates* may be *predicated of one*, the *other* may be *predicated of another*, and ſo alſo *negatively*; as, *if whiteneſs be a colour*, *white ſhall be a thing coloured*. This *rule* faileth 1. In thoſe which are *nominal conjugates only*; as it doth not follow that *wine is an evil thing*, becauſe *winebibbing* is ſo: 2. In arguing *affirmatively*,

from the *concretes* to the *abſtracts*, where the predication is not by it ſelf; as, it doth not follow that *whiteneſs is ſweetneſs*, becauſe ſomething that is *white* (as *milk*) is *ſweet*.

3. In arguing *negatively* from the *abſtracts* to the *concretes*; as, becauſe *no whiteneſs* is *ſweetneſs*, it doth not follow that *nothing that is white, is ſweet*.

The *Canons* of *Notation* are *two*.

1. *That which doth or doth not agree to notation, doth, or doth not agree with the thing noted*; as, if the *ſtudy of wiſedome* be to be preferred before the *ſtudy of the military art*, *Philoſophy* is alſo to be preferred before the *military art*.

2. *That of which the thing noted is predicated, notation is alſo predicated*, and the contrary; as, *if there be a ſolſtice, the Sun doth ſtand; if there be no holy thing taken away, there is no Sacrilcdge*.

The *Topick* from *notation* is more delightful than forcible, and the *Canons* thereof do fail very often; as, 1. If the *notations* be too much ſtrained; as, it doth not follow that *Thomas Perſeval is therefore wiſer than other men*, becauſe he doth *perceive all*. 2. If in argumentation *a true notation* or *etymology* be not taken in a *true manner*; as, it doth not follow that *Socrates doth teach* or *inſtruct his pupils* becau

becauſe he is a *teacher*, for he is indeed called a *teacher* from *teaching*, or becauſe he *ought to teach*; not becauſe he *doth alwaies actually*. And by ſeveral other waies, which a diligent obſerver may eaſily underſtand.

CHAP XV.

Of the Topicks from the Whole and his Parts.

THe *whole* and its *parts* are *relations*.

The *whole* is that which is *compoſed* by the *union of all the parts*; as, *a man*: The *parts* are thoſe which are *united* in the *whole*; as, *the head, the breaſt, the legs*. The *eſſential parts* of an *eſſential whole* are *matter* and *form*. The *integral parts* of an *integral whole* are thoſe which *differ* ſo in their *ſcituation*, as that *one part* may be *ſeparated* from *another*; as the *parts* of a *houſe* are, the *foundation*, the *walls*, the *roof*. An *Homogeneal Integer* or *whole* is diſtributed into *Homogeneal* or *ſimilary parts*, of which every one hath *name* and *definition* of the *whole*; as, *every part* of *water* is *water*. An *Heterogeneal whole* is diſtri-

buted into *Heterogeneal* or *diſſimilary parts*, which have *diſtinct names* and *natures* from the *whole*; as, the *parts of a man* are the *head, hands, feet*, &c. *Parts* may be conſidered either every one *ſingle* by its ſelf, or all of *them jointly and together.*

The *Canons* or *Rules* are theſe.

1. *The whole being granted, the parts are granted alſo*; as, if there be a *houſe*, there is a *foundation.*

2. *If the parts be taken away, the whole is taken away alſo*; as, if there be *no foundation*, certainly there can be *no houſe*; both theſe *rules* fail, 1. In *equivocal parts*, and *parts* ſo called *improperly*; as, it doth not follow, that he is *not a man*, becauſe he hath *neither hair nor nails*. 2. In a *whole*, that is *lame in ſome part* not *ſimply* neceſſary: as he may be *a man*, though *one* of his *fingers* or *hands* be cut off.

3. *The whole being taken away, the parts are alſo taken away*; as if there be *not a houſe*, there is *not a foundation.*

4. *The parts being granted, the whole is alſo granted*; as if there be a *foundation, walls*, and *roof*, there muſt be a *houſe.* Either of theſe *rules* fail, when the *parts* are taken by *themſelves*; as, there may be *a foundation*, though there is *not a houſe as yet.*

CHAP. XVI.

CHAP. XVI.

Of the Topicks from Genus and Species.

TOpically *Genus* and *Species* are not alwaies taken as in the *predicables*: for here *Genus* is every *essential predicate*; whether it be a *Genus*, properly called the *predicate* of some *species* or *individual*: as *animal* is spoken of *man*, or of *Socrates*; or a *species* spoken of *individuals*, as *man* of *Socrates*; or whether a *Generical* or *specifical difference* be spoken of the *inferiour Species*, which it doth constitute; as, *sensibility* of *man*; *rationality* of *Socrates*.

In like manner by *Species* here, we do not only understand that which is properly so called, which is immediately under his *Genus*, but a *specifical difference*, and also an *individual* it self; and whatsoever is *subjected* to something *superiour*, in that particular in which it is *subjected*, is called by the name of *Species*.

The *Canons* or *Rules* of *Genus* and *Species*, are

1. *If the Genus be taken away, the Species*

is taken away alſo; as, if there be not an *Animal*, there is neither *man* nor *beaſt*, nor *reaſonable creature*.

2. *The Species being granted, the Genus is alſo granted*; as, if there be a *man* or ſomething that is *rational*, there is an *animal*. Theſe *rules* hold alwaies.

3. *What doth or doth not agree to the Genus, doth alſo agree or not agree to the Species*; as, if an *animal* be ſenſible, a *man* is ſo; if it be not *incorporeal*, neither is a *man*. This *rule* faileth 1. In a *material* or *ſimple ſuppoſition*, for neither is *man* a *Genus*, becauſe there is an *animal*, or not a *Species*, becauſe there is *not* an *animal*. 2. In thoſe things which do agree or not agree in *part* only and not *univerſally*; as, neither is a *man irrational* becauſe ſome *animal* is ſo, or *not rational* becauſe ſome *animal* is *not rational*.

4. *What doth or doth not agree to a Species, doth or doth not agree unto its Genus*. This muſt be explained *two* waies. 1. What doth or doth not agree to any *Species*, doth or doth not agree to its *Genus* in *part*; thus are *Syllogiſms* in the *third* figure; as, if *man* be *rational*, or not *fourfooted*, certainly ſome *animal* is *rational*, and ſome *animal* hath not *four feet*. 2. What doth or doth not agree to all the *Species*, doth or doth not agree to all the

the *Genus*: hence *inductions* are formed; as, if a *man*, a *horſe* &c. be *ſenſible*, or are *not immortal*; certainly every *animal* is *ſenſible*, and no *animal* is *immortal*.

CHAP. XVII.

Of the Topicks from Definition and Diviſion.

Definition, *Topically* taken, doth comprehend not only every *eſſential definition*, but every *perfect deſcription* of a thing alſo, and every *convertible predicate*, as the *conſtitutive difference* and *proper accident*. But *diviſion* is ſo taken, as in the *ſecond* book of *Logick* is expreſſed, *Chap.* 2.

Definiton hath this only *Canon*. *The definition being granted or not granted, the thing defined is alſo granted or not granted*; and the contrary; as, if there be a *rational creature*, there is a *man*, and the contrary; if there be not a *man*, there is no *rational creature*, nor on the contrary. This *rule* faileth in thoſe things which agree to the *definition* or the *thing defined* as a *definition* or *thing defined*; for if a *rational creature* be a compounded ſpeech, it doth not follow that there

is *a man*, otherwiſe it is alwaies true; for 'tis founded in their mutual reciprocation.

Diviſion hath this only *Canon* alſo: *One or other of the dividing members being taken away, the other is taken away alſo, and one being granted, the other is alſo granted*; as, if this *animal* be not a *brute*, it is *a man*, if it be *a man*, it is not a *brute*. This doth always hold in every good *diviſion*; for it is founded upon theſe *two Canons* of a *perfect diviſion*. 1. The *members* do take up the *whole* that is to be *divided*. 2. The *dividing members* are contrarily *diſtinct* and *oppoſite*, ſo that they can neither *agree* nor *be confounded*.

CHAP. XVIII.

Of the Topick from Teſtimony.

WE are now to ſpeak of *inartificial arguments*, or ſuch as are void if not againſt the *rules* of *art*. Theſe contend not with ſtrength of *reaſon*, but *authority*: and are drawn from *Teſtimony* or *Witneſs*.

Teſtimony

Testimony or *Witness* is either,

- Divine
  - By *Revelation*, as the *Scriptures*, *Dreams* and *Visions* &c.
  - By *operation*, as the *judgments* of *God*, *miracles*, *experiences* of Gods *justice*, *power*, and *providence*; and unto this the *Testimony* of *nature* may be referred.
- Humane
  - *Proper*, as the *Testimony* of the *senses*.
  - Common
    - *Publick*, as *Customs*, *Laws*, *Monuments* &c.
    - *Private*; as, *Confessions*, *Wills*, *Oaths*, *Compacts*, the *judgment* of *Authors*, and such like.

Some *Testimonies* are more firm than others, concerning which many *Canons* or *Rules* might be given; some of the chief are these which follow.

1. *Testimony in the negative is of no value*, for it doth not follow that it is *not* so, because *Aristotle* hath *no where* made mention of it. This *rule* faileth; 1. In those things which are not to be commanded without a certain *authority*; as because it is not in the *Scriptures*, therefore it is not

not to be *believed*; nor is it a *capital* crime to *ſwear raſhly*, becauſe no law hath made it *capital*. In thoſe things in which an *author* either ſhould or hath promiſed to diſcourſe *perfectly*; as, *Ariſtotle lib.* 1. *Metaphyſ.* where he promiſeth to enumerate the ſeveral *ſpecies* of *quantity*, yet makes no mention of *place*; is not *place* therefore one *Species* of *Quantity*?

2. *Divine Teſtimony is of infallible truth*; as, *Chriſt* is the *Meſſiah*, becauſe the *Scripture* ſaith it. This *Rule* never faileth.

3. The *Teſtimony* of *ſenſe* is ſurely to be believed; as, *fire* is *hot*, becauſe *ſenſe* ſheweth it to be ſo. This *rule* faileth when a reaſon can be *ſhewed*, that the *ſenſes* are deceived; as, a *ſtaff* is not therefore *crooked*, becauſe it ſeems ſo when it is in the *water*.

4. *An artiſt is to be believed in his own art*; as, a *perfect birth* may be in *ſeven months*; as *Hippocrates* affirmeth. This *rule* failerh; where others as skilful, or more skilful do think and affirm otherwiſe: as there are no *Ideas*, though *Plato* affirm it, becauſe *Ariſtotle* doth oppoſe it. 2. Where *ſenſe* or *reaſon* doth contradict; as *Snow* is not *black*, though *Anaxagoras* doth ſay it; nor

of

an

an elementary nature, though *Ariſtotle* doth affirm it; becauſe the one is contrary unto *ſenſe*, and the other unto *reaſon*.

5. *The Teſtimony of many is to be received, before the Teſtimony of a few*; as it is more probable, that there is an *element* of *fire*, becauſe *many* think ſo, then that there is not, that being the opinion but of a *few*. This *rule* faileth 1. When the *fewer* are the *wiſer*; as, *vertue* is to be preferred before *riches*, becauſe the *wiſer* ſort do think ſo. 2. Where the *fewer* in number do give the *ſtrongeſt reaſons*; as, *Logick* is an *art* rather than a *ſcience*, though they are the *fewer* number that think ſo, becauſe it appears to be ſo by moſt *firm* and *ſtrong Arguments*.

6. *The Teſtimony of the Antients is to be preferred before the teſtimony of the Neotericks*; which is eſpecially to be received in things belonging to *piety* and *good manners*, for in things of *art* and *ingenuity*, the *antients* without doubt are much outdone by *men of later years*; it being eaſier to add ſomething to things already invented, than to *find out* new inventions.

CHAP.

CHAP. XIX.

Of Fallacies in the General.

HItherto we have ſpoken of a *true Syllogiſm*, as it conſiſts either of *neceſſary* or *probable* matter; it remaineth now that we ſpeak of a *Sophiſtocal Syllogiſm.*

A Sophiſtical Syllogiſm, *is a captious argumentation, which is ſeemingly only or apparently true or probable, but is indeed deceitful.* And the Antients did call thoſe *Sophiſters* which endeavoured to obtain *Glory by diſputation*, and that by *five* waies or means eſpecially by forcing the *reſpondent*,

1. To *Redargution*, which is the *denial* of ſomething that was *before granted*, or the *conceſſion* of ſomething that was *before denied.* When the *reſpondent* is forced to *contradict* himſelf.

2. To ſomething that is *falſe*; as, when he *admits* of ſomething that is *apparently* known to be ſo.

3. To ſomething *contrary to common ſenſe*; as, when he admits of ſome propoſition, that

that is *contrary* to the *common received opinion.*

4. To ſome *Solœciſme*; as when he *admits* of ſome thing *contrary* to the *rules* of *Grammar*; or,

5. And laſtly, to ſome *trivial* and *vain* thing; as when there is a *vain* and *uſeleſs repetition* of the ſame thing.

Theſe *fallacious* waies of *arguing*, *Ariſtotle* hath well referred to theſe *two* heads, to *Fallacies* in *words*, or in *things*: Of *Fallacies* in *words* he reckons *five*. *Ambiguity*, *Amphibolie*, *Compoſition*, *Diviſion* and *Figure* of a *word*: Of *Fallacies* in *things* he names *ſeven*; *Accident*, Of *a thing ſpoken after a ſort to a thing ſpoken ſimply*, *Ignorance of the argument*, A *falſe* or *wrong Cauſe*, *Conſequent*, *Begging of the queſtion*, and, An *asking of many queſtions*.

CHAP.

CHAP. XX.

Of Fallacies in Words.

ALL *Fallacies* in *words* ariſe from ſome *Multiplicity* that is in them; and the *multiplicity* that is in *words*, is either *Actual*, *Potential*, or *Phantaſtick*.

1. *Actual*, when a word without variation hath many meanings; as, in *Æquivocation*, and *Amphibolie*.

2. *Potential*, when a word being altered in the pronunciation, hath many meanings; as in *Compoſition*, *Diviſion*, and *Accent*.

3. *Phantaſtick*, when a word doth really and indeed ſignifie but one, and yet doth ſeem to ſignifie many things, as in the *figure* of a word.

A *Fallacy* of *Æquivocation*, or *Homonymie*, is when ſome *ſimple* word is diverſly taken in the ſeveral propoſitions of the ſame Syllogiſm; and this may be *three waies*.

1. When *one word* is applied to *ſeveral things*; for example,

Every

Every Dog doth bark,
The Dog ſtar is a Dog,
Therefore the Dog ſtar doth bark.

2. When a word *properly* ſignifying but one thing is by *Analogy* or *Metaphor* applied to *another*; as if one would prove that *water* hath *feet*, becauſe it *runs*, or the *meadow* a *mouth*, becauſe it *ſmiles*.

3. When there is ſome ambiguity in reſpect of the *accidents* of the parts of ſpeech according to *Grammar*; as, if one would prove that he which is *ſitting* doth *ſtand*, becauſe he *did riſe*.

In theſe *Fallacies* there are *four* terms; and may be reſolved by ſhewing the *ſeveral ſignifications* of the *ambiguous word*.

A *Fallacy* of *Amphibolie* is when ſome *ſentence* is doubtful by reaſon of the *conſtruction*, and this may be *three* waies.

1. The *conſtruction* of the words being the *ſame* but under a *diverſe habitude*; as, if one would prove this to be *Ariſtotle's* book becauſe he *made* it.

2. By changing the *order* of the *conſtruction*, as; thus,

That

That which one doth ſee is true,
But you ſaw Thomas *drunk,*
Therefore it is true that Thomas *was drunk.*

3. When a ſentence hath both a *proper* and a *Metaphorical* ſenſe; as thus,

They which laugh have mouths,
The Meadows do laugh,
Therefore the Meadows have mouths.

And to this belong all *proverbial* ſpeeches, and may be reſolved by ſhewing the *ambiguity* of the ſentence.

A *Fallacy* of *compoſition, is when ſuch words are joined together which ſhould be disjoined*; and the contrary unto this is a *Fallacy* of *diviſion, when ſuch words are ſevered which ought to be joined together*; both of theſe may happen *four* waies. 1. When the *dictum* in a *modal* propoſition may be put for its *whole ſelf*, or for a *part of its ſelf:* as for example, *It is poſſible for him that is ſitting to run*; the which propoſition is *falſe* if taken together, for *while* he doth *ſit*, he cannot *actually run*; but being disjoined it is *true*, for he that doth *now ſit*, at *another time may run.* 2. In *Hypothetical* propoſitions, whoſe parts are joined by ſome conjunction *copulative* or *diſ-*

junctive

junctive; as, *two* and *three* are *even* and *odd*, but *five* are *two* and *three*, therefore *five* are *even* and *odd*. 3. When ſome word in a ſentence may be joined to *diverſe things*; as for example;

He that may now be truly ſaid to be born, is born in this hour;
But a man that is threeſcore years old may now be truly ſaid to be born;
Therefore a man that is threeſcore years old is born in this hour.

4. When *two* things are taken *ſeverally* in the premiſſes, and *conjunctly* in the concluſion, and the contrary; as thus;

This dog is a father,
And this dog is yours,
Therefore this dog is your Father.

In theſe there are *four* terms, and are reſolved by ſeparating the *divided* ſenſe from that which is *compounded*; and ſhewing which of them is *true* and *genuine*, and which not.

A *Fallacy* in *Accent*, *is when one and the ſame word or ſentence doth ſignifie diverſe things, by reaſon of the different accent or manner*;

ner of pronunciation; and this may be *four* waies. 1. By making a *wrong pronunciation*, a *long* ſyllable for a *ſhort*; or the contrary. 2. By the *diverſe writing*, without a *diphthong* or *aſpiration*; as thus, They that could pronounce *Shibboleth* were ſafe from the *Gileadites*, but the *Ephramites* could pronounce *Sibboleth*, therefore they were *ſafe*. 3. When *one* word is made of *two*, or *two* of *one*. 4. By changing the *manner* of the pronunciation, as, thus; *He that ſaith well done, doth acknowledge the action to be good; But he that derides another, doth ſay*, well done! *Therefore he that derides another, doth acknowlede the action to be good.* In theſe alſo there are *four* terms; and they are ſolved, by ſhewing the reaſon of the *diverſe accent* or *writing*.

A *Fallacy* of the *figure* of a word, *is when for ſome ſimilitude and likeneſs of words, that doth ſeem to agree to one thing, which is proper to another*. But theſe *Fallacies* have the leaſt ſhew of probability, and therefore are but rarely uſed, and are many of them ſolved by ſaying that the words are indeed like, by reaſon of ſome *accidents*, as, *ſound* or *termination*; but not in *ſubſtance ſenſe* or *ſignification*.

CHAP.

CHAP. XXI.

Of Fallacious Things.

BRITISH MUSEUM

Fallacies in things are seven.

1. A *Fallacy of accident, when that which agreeth to one of the terms in a Syllogism only by accident, is attributed unto another as if it were essential.* This happeneth,

1. When we argue from the *accident* to the *subject*, and the contrary; for example, *That which causeth drunkenness is to be removed; But wine is the cause of drunkenness; Therefore wine must be taken away.* 2. When the *Genus* of the *supposition* is changed, the *material* into the *formal*, the *simple* into *personal*, and the contray; as thus, *An animal is a Genus, a man is an animal, therefore a man is a Genus.* 3. When we argue from the *Superiour* to the *Inferiour* and the contrary; as if we would prove that *rationality* is convertible with *living creature*, because it is *convertible* with *man.* These are solved by distinguishing that which agrees with any thing *of it self*, from that which doth so *by accident.*

2. *A Fallacy from a thing spoken in some respect to a thing spoken simply*; and this is when from

from the *mean term* diſpoſed with limitation, or after a ſort with *both* or *either* of the *extremes*, a *concluſion* is inferred *ſimply* and *abſolutely true*. And this may be *three* waies. 1. When the *limitation* added deſtroies the *term* to which it is added; as, *Socrates is a dead man, therefore he's a man.* 2. When the *limitation* added, doth ſignifie a *part*; as *a Blackamore hath white teeth, therefore a Blackamore is white.* 3. When the *limitation* added, doth ſignifie ſome *notable circumſtance* of *time, place, perſon*, and the like; as, *It is fit to caſt the merchants goods into the Sea, for the preſervation of the men in the ſhip; therefore it is fit to caſt the merchants goods into the Sea.* Theſe are ſolved by diſtinguiſhing that which is *ſimply* and *abſolutely* ſo, from that which is ſo in *ſome reſpects only*.

3. *A Fallacy from ignorance of the argument*, and this is, when either the *ſtate of the queſtion* is quite turned or wreſted; or the *adverſaries concluſion* is not directly oppoſite to our *Theſis*, according to the *Canons* of *lawful oppoſition*. This happeneth if the diſputation, 1. Be not to the *ſame thing*; as, *Socrates* is *rich*, if he be compared with *Codrus*, *poor*, if compared with *Cræſus*, therefore *Socrates* is both *poor* and *rich*. 2. If it be

e not ſo in reference to the *ſame*; as, no *Blackamore is white, every Blackamore is white in reference to his teeth, therefore a Blackamore is and is not white.* 3. If it e not taken in the *ſame manner*; as Socra-es *doth run freely*, Socrates *doth not run free-y, therefore* Socrates *doth and doth not run.* 4. If it be not in reference to the *ſame time*; s, *The faithful under the law did believe that Chriſt was to come, The faithful under the Goſpel do not believe that Chriſt is to come, but that he is exhibited, Therefore the faithful do and do not believe that Chriſt is to come.* All *Fallacies* may in ſome ſort be reduced unto this of *ignorance of the argument*, even as all *oppoſition* may be reduced to *contradiction*. Theſe are ſolved by ſhewing the *defect of the contradiction*, in ſome of the *four* mentioned conditions.

4. *A Fallacy from that which is not the cauſe for the cauſe.* And this is when that is brought for the *true cauſe*, which either is *no cauſe*, or elſe a *cauſe only by accident*, or *not like unto the effect.* This happens 1. When that which is *not* the *true cauſe* is brought for the *true*; as if one would prove ſuch a *war* to be a *cruel war*, becauſe of the *appearance of a Comet.* 2. When that which is the *cauſe by accident* is brought for the *true*; as if one would prove that the *uſe of wine is to be for-*

bidden

den, becauſe it maketh men drunk. Theſe *Fallacies* are very uſeful in ſuch *Syllogiſms* which drive the reſpondent to ſomething that is *impoſſible*; and they are ſolved, by denying the *falſe cauſe*, and ſhewing the *true*.

5. *A Fallacy of the conſequent*; and this is when that is inferred from the *antecedent* as the *conſequent* which yet is not the *conſequent*. This happens as often as the *rules of converſion*, or *conditions of Syllogiſms* are not obſerved. And theſe are ſolved by ſhewing the *weakneſs of the inferences*, either from the *rules*, or from ſome other *inferences of the ſame form*, which are *infirm*.

6. *A Fallacy from begging the queſtion*; and this is when that is uſed for the *mean* which is *not granted*, or is *different from that which is ſought*, but as much unknown. This happeneth many waies. 1. When the *thing ſought* is taken in the *ſame terms*; as thus, *every man is rational, every man is a man; therefore every man is rational.* 2. When the *thing ſought* is expreſſed in words, *Synonymous* or *equivalent*; as if one would prove that a *ſhilling* is the *twentieth* part of *pound*, becauſe *twelve pence* is ſo. 3. When the *queſtion is proved* by that which is *as much or more unknown*; as, *Heaven is immoveable*

moveable, becauſe the earth is moveable. 4. When the *propoſitions do mutually prove one another*; as, if one would prove that *fire* is the *hotteſt*, becauſe the *thinneſt*; and then again that it is the *thinneſt* becauſe the *hotteſt*. It is ſolved by ſhewing the *vanity* and *folly* of ſuch arguing.

7. *A Fallacy of asking many queſtions*; and this is, when *many queſtions* or *concluſions* are confounded *in one*. This may be *two* waies. 1. When the *ſame predicate* is ſought from *diverſe ſubjects*; as, is the *Earth*, *Sea*, or *Heaven*. 2. When *diverſe predicates* are ſought from *one* and the *ſame ſubject*; as, is *man*, *a living creature*, and *a ſtone*. Theſe are ſolved not by anſwering in *one anſwer to all the parts of the queſtion together*, but *diſtinctly to every one*.

And thus much concerning a *Sophiſtical Syllogiſm*.

CHAP. XXII.

Of Method.

I Am now to ſpeak of *Order* or *Method* which is the fourth and laſt Logical inſtrument. And, *Method is the diſpoſing of things belonging to the ſame matter or ſubject, ſo, as that they may be beſt underſtood, and eaſieſt remembred.*

2. *That the limitations of this Definition may be obſerved; ſuch things muſt be premiſed which do conduce to the knowledge of thoſe that follow; or thoſe things at leaſt muſt be ſpoken of firſt, which are more eaſie to be underſtood than the reſt.*

3. *Method is twofold, Natural or Arbitrary.*

4. *A natural Method is that in which the order of nature and our diſtinct knowledge is obſerved.* Some controverſie there is here amongſt writers, whether in the writing of any ſubject, it be fit to ſpeak of thoſe things firſt, which are firſt in nature; or thoſe things with which we are beſt acquainted. And I think that for the moſt part, we are beſt acquainted with that which is firſt in nature; but if at any time it happen

pens otherwiſe, then I concur with *Zabarel*, that thoſe things are to be ſpoken of firſt, which come firſt under our cognizance, and not thoſe that are firſt in their own nature.

5. *In a natural method all the parts ought to be Homogeneal.* We ought not in a natural method to mingle one ſcience with another, as Ethicks in a treatiſe of Geometry, or Geometry in a treatiſe of Ethicks. This muſt be ſtrictly obſerved in all the precepts which belong to the eſſence of any ſcience; but in the commentaries or expoſitions of any precepts, we may make uſe of any other ſcience as well as of that, of which we write or ſpeak; as in writing of Phyſick, we may repeat ſomething of Logick, or in writing of Ethicks we may make uſe of ſomething in Phyſick.

6. *In a natural Method, we muſt ſpeak firſt of Generals, and then of Particulars; and as we proceed from one thing to another, every part muſt have a dependence on that which was laſt ſpoken of, by ſome apt tranſlation.* This dependence or connexion muſt be in this or the like form. And this ſhall ſuffice to be ſpoken of this thing; the next in order to be ſpoken of is &c. How much ſuch forms do help the memory, is very hard to be believed.

7. *A Natural Method is either Total or Partial.*

8. *A Total Method is that in which a whole Science is methodically ordered or diſpoſed.* And this is either *Synthetical or Analytical.*

9. *A Synthetical or Compoſitive Method is that, which begins with the firſt and moſt ſimple principles, and ſo proceeds to thoſe which do ariſe from, or are compoſed of theſe firſt principles.* And according to this Method we are to write or ſpeak of all ſpeculative arts.

10 *An Analytical or Reſolutive Method is that which begins with the end, and ſo proceeds ſtill lower and lower till we come to the firſt and moſt ſimple beginnings.* And according to this Method, we are to write or ſpeak of all Practical arts.

11. *A Partial Method is that, by which any part of any art or ſcience is methodically ordered or diſpoſed: Or by which any particular Theam or Subject, is handled by it ſelf.* In this Method we are to conſider, that as it is a part of a Total Method, it ofttimes ſo falls out, that in handling a part of ſome ſcience, we ought to obſerve the Analytical Method; if the whole ſcience be to be handled in a Synthetical, and the contrary; that is, in ſuch a ſcience in which the whole is to be handled in an Analytical Method, a part thereof

thereof must be handled in a Synthetical. As for example, if we were to write of all Physicks, we must write in a Synthetical Method, but if we were to write of that part which concerns a living body, it were fit to observe the Analytical Method, beginning first with the actions, which are the ends of life; then proceeding to the causes and principles which are the faculties of the soul, the temperaments and the Organical parts of the living body; And as some particular Theam or Subject is to be handled by it self, we are to consider; That in simple Theams we are first to explain the name, by shewing the Etymology, and explaining the words that are Synonymous thereunto either in the same or in other languages, if it may any thing conduce to the explanation of the Theam propounded: next to the name we are to consider the neareſt Genus and Causes; and if the Theam be an accident, the Subject and Object also; and hence the Definition thereof must be composed. To the Definition we must add the adjuncts and effects &c. But in compounded Theams first the question must be rightly stated, and then the proper and genuine sense must be confirmed by good reason and proof, of these things I have already spoken more at

large in my Art of Rhetorick.

12. *An Arbitrary Method is that which not regarding the natural order is fitted for such a confused knowledge as may be most taking with the people or ſute beſt with their capacities.* If we are to ſpeak to ſober, judicious & knowing men, there is no queſtion, but that we ought to ſpeak of things in their natural order; but if we have to do with the common ſort of people, and ſuch as are guided more by ſenſe than reaſon, we are to conſider of their capacities, and to ſpeak of things not as they are in their natural order, but as they are or may be beſt apprehended by them.

And thus much concerning *Method*, which is the fourth and laſt *Logical Inſtrument*; and with this I ſhall conclude theſe my *Logical* Precepts.

Soli Deo Gloria.

4 AP 62

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4 AP 62
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